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THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

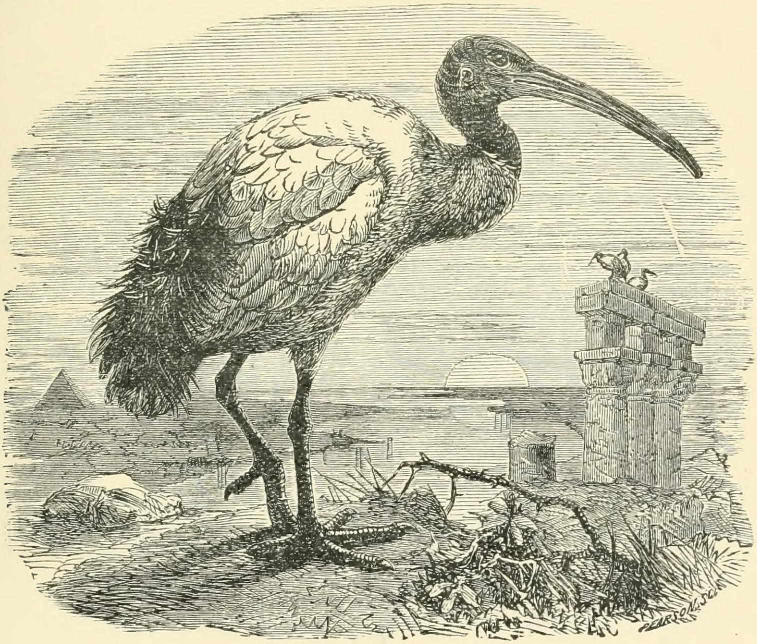
EDITED BY

PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,

SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON,

AND

HOWARD SAUNDERS, F.L.S., F.Z.S.

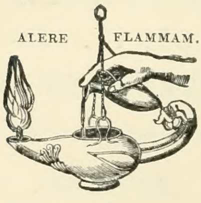


VOL. IV. 1898.

SEVENTH SERIES.

Non moriar, sed vivam, et narrabo opera Domini.

LONDON:
GURNEY AND JACKSON, 1 PATERNOSTER ROW.
(SUCCESSORS TO J. VAN VOORST.)
1898.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PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

PREFACE.

On bringing to a conclusion the fourth volume of the Seventh Series of 'The Ibis,' the Editors wish to record their thankfulness for the unflagging support that they continue to receive from their friends and correspondents in all parts of the world. The present volume is above the average in size, and several valuable articles already received must necessarily stand over until the next number.

A great ornithological event of the year 1898 will be the completion of the 'Catalogue of Birds in the British Museum,' the only descriptive account of the whole Class of Birds accomplished since the days of Latham. The twenty-sixth volume (the only one required to close the long series) is, we are informed, actually in type, and will be ready for issue soon after the present number of 'The Ibis' is in the hands of our readers. It is well that in this, as in other branches of Natural Science, our country should take the lead in work which is for the information and advantage of the whole civilized world, and could only have been accomplished by the hard and patient labour of many years.

P. L. S.
H. S.

3 Hanover Square,
October 1st, 1898.

BRITISH ORNITHOLOGISTS' UNION.

1898.

[An asterisk indicates an Original Member. It is particularly requested that Members will give notice to the Secretary of the Union, 3 Hanover Square, London, W., of any error in their addresses or descriptions in this List, in order that it may be immediately corrected.]

Date of Election.

1896. Alexander, Boyd; Swifts Place, Cranbrook, Kent.

1893. Anne, Major Ernest L. S.; 21 Victoria Square, Newcastle-on-Tyne.

1888. Aplin, Oliver Vernon; Bloxham, Banbury, Oxon.

1896. Archibald, Charles F.; 9 Cardigan Road, Headingley, Leeds.

5 1897. Astley, The Rev. Hubert Delaval, F.Z.S.; Chequers Court, Tring.

1885. Backhouse, James, F.Z.S.; Daleside, Harrogate.

1892. Baker, E. C. Stuart; District Superintendent of Police, Hafflong, North Cachar, Assam, India; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

1889. Balston, Richard James, F.Z.S.; Springfield, Maidstone.

1890. Barclay, Francis Hubert; Knott's Green, Leyton, Essex.

10 1872. Barclay, Colonel Hanbury, F.Z.S.; Tingrith Manor, Woburn, Bedfordshire.

1885. Barclay, Col. Hugh G.; Colney Hall, Norwich.

1889. Barrett-Hamilton, Gerald E. H., F.Z.S.; Kildare Street Club, Dublin, and Savoy Mansions, Savoy Street, Strand, W.C.

1881. Barrington, Richard Manliffe, LL.B.; Fassaroe, Bray, co. Wicklow.

1884. Beddard, Frank E., M.A., F.R.S., F.Z.S., Prosector to the Zoological Society of London; Zoological Gardens, Regent's Park, N.W.

15 1897. Benson, John; The Post Office, Vancouver, B.C.

1897. Berry, William, B.A., LL.B.; Tayfield, Newport, Fifeshire.

1880. Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C.

1884. Bingham, Lt.-Col. Charles T. (Indian Staff Corps), F.Z.S.; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

Date of Election.

1892. Bird, Rev. Maurice C. H., M.A.; Brunstead Rectory, Stalham, Norfolk.

20 1891. Blaauw, F. E., C.M.Z.S.; Gooilust, 'sGraveland, Noord-Holland.

1893. Blagg, Ernest W. H.; Greenhill, Cheadle, Staffordshire.

1898. Bland, Ivers; Newbold Firs, Leamington.

1873. Blanford, William T., F.R.S., F.Z.S.; 72 Bedford Gardens, Kensington, W.

1897. Bligh, Hon. Ivo Francis; Southfields Grange, Wandsworth, S.W., and Union Club, Trafalgar Square, W.C.

25 1893. Bolam, George, F.Z.S.; The Mead, Beal, R.S.O., Northumberland.

1897. Bonar, Rev. Horatius Ninian; Free Church Manse, Salton, Pencaitland, East Lothian, N.B.

1894. Bonhote, John Lewis; 68 Lexham Gardens, Kensington, W.

1898. Booth, George Albert; Phœnix Iron Works, Derby Street, Preston, and Fern Hill, Grange-over-sands, Lancs.

1878. Borrer, William, M.A., F.L.S.; Cowfold, Horsham.

30 1895. Bradford, Dr. J. Rose, F.R.S.; 60 Wimpole Street, W.

1885. Brockholes, William F.; Claughton-on-Brock, Garstang, Lancashire.

1890. Brooke, Harry Brinsley; 33 Egerton Gardens, Kensington, W.

1892. Brooks, W. Edwin; Mount Forest, Ontario, Canada.

1897. Bryden, Henry A.; Gore Park Road, Eastbourne.

35 1868. Buckley, Thomas Edward, B.A., F.Z.S.; Rossal, Inverness, N.B.

1895. Bulgaria, H.R.H. Ferdinand, Prince of; Sophia, Bulgaria.

1872. Buller, Sir Walter Lawry, K.C.M.G., Sc.D., F.R.S., C.M.Z.S.; 122 Tinakori Road, Wellington, New Zealand.

1884. Butler, Lieut.-Col. E. A.; Brettenham Park, Ipswich, Suffolk.

1896. Butterfield, W. C. J. Ruskin; 3 Stainsby Street, St. Leonards-on-Sea.

40 1884. Buxton, Geoffrey Fowell; Dunston Hall, Norwich.

1895. Buxton, S. Gurney, F.Z.S.; Catton Hall, Norwich.

1896. Cade, Francis J.; Teighmore, Cheltenham.

1889. Cameron, Ewen Somerled, F.Z.S.; Terry, Montana, U.S.A.

1896. Cameron, James S.; 1st Bn. Royal Sussex Regt.; and Low Wood, Bethersden, Ashford, Kent.

45 1888. Cameron, John Duncan; Low Wood, Bethersden, Ashford, Kent.

Date of Election.
1892. Campbell, Charles William, C.M.Z.S.; H.B.M. Chinese Consular Service; British Legation, Peking, China.
1888. Carter, James; Burton House, Masham, Yorkshire.
1890. Cave, Charles John Philip, F.Z.S.; Ditcham Park, Petersfield.
1888. Chamberlain, Walter, F.Z.S.; Harborne Hall, Harborne, near Birmingham.
50 1894. Chance, A. Macomb, Jun., B.A.; Lawnside, Edgbaston, Birmingham.
1884. Chapman, Abel; 6 The Avenue, Sunderland.
1882. Chase, Robert William; Southville, Priory Road, Edgbaston, Birmingham.
1897. Cholmley, Alfred John, F.Z.S.; Place Newton, Rillington, Yorkshire.
1889. Clarke, Stephenson Robert, F.Z.S.; Borde Hill, Cuckfield, Sussex.
55 1880. Clarke, William Eagle, F.L.S.; Museum of Science and Art, Edinburgh.
1898. Cocks, Alfred Heneage, F.Z.S.; Thames Bank, Great Marlow, Bucks.
1898. Coke, Hon. Richard; Scots Guards, Wellington Barracks, S.W.
1895. Coles, Richard Edward; Oakfield, Milton, Lymington.
1880. Cooper, Lieut.-Col. E. H., F.Z.S.; 42 Portman Square, W.
60 1874. Cordeaux, John, J.P.; Great Cotes, R.S.O., Lincoln.
1888. Cordeaux, Captain William Wilfrid; 21st Lancers.
1882. Cory, Charles B., F.Z.S.; Third National Bank, State Street, Boston, Mass., U.S.A.
1892. Courage, Harold Mitchell; Snowdenham, Bramley, Guildford.
1896. Cowie, Capt. Alexander Hugh, R.E.; care of H. Ward, Esq., Yeatton, Lymington, Hants.
65 1896. Crawford, Francis C.; 19 Royal Terrace, Edinburgh.
1894. Crewe, Sir Vauncey Harpur, Bt.; Calke Abbey, Derbyshire.
1896. Crockett, Samuel Rutherford; Bank House, Penicuik, Midlothian.
1895. Crossley, Sir Savile B., Bt., F.Z.S.; Somerleyton, Lowestoft, and 12 Carlton-House Terrace, S.W.
1898. Crossman, Alan F.; St. Cuthbert's, Berkhamsted, Herts.
70 1882. Crowley, Philip, F.Z.S.; Waddon House, Waddon, Croydon.

Date of
Election.

1898. Crowley, Reginald Alwyn; Highfield, Alton, Hants, and 22 High Street, Croydon.

1877. Dalgleish, John J.; Brankston Grange, Bogside Station, Stirling, N.B.

1898. Dalrymple, Hon. John James; Scots Guards, Wellington Barracks, S.W.

1896. Danford, Bertram W. Y., R.E.; Bermuda.

75 1874. Danford, Charles G., F.Z.S.; Hatszeg, Siebenbürgen, Hungary, and Conservative Club, St. James's Street, S.W.

1883. Davidson, James; Karwar, Kanara, Bombay, and 32 Drumsheugh Gardens, Edinburgh.

1891. De Vis, Charles W.; Queensland Museum, Brisbane, and care of B. Quaritch, 15 Piccadilly, W.

1893. De Winton, W. E.; Graftonbury, Hereford, and 59 Charlotte Street, Portland Place, W.

1896. Degli Oddi, Count Ettore Arrigoni, Professor of Zoology, the University, Padua; and Ca' oddo, Monselice, Padua, Italy.

80 1896. Dobbie, James B., F.Z.S., 2 Hailes Street, Edinburgh.

1889. Dobie, William Henry, M.R.C.S.; 22 Upper Northgate Street, Chester.

1883. Doig, Scrope B.; Public Works Department, Bombay.

1895. Donovan, Surgeon-Capt. Charles, I.M.S., Civil Surgeon; Mangalore, South Canara, India.

1865. Dresser, Henry Eeles, F.L.S., F.Z.S.; Topclyffe Grange, Farnborough, Beckenham, Kent, and 110 Cannon Street, E.C.

85 1896. Drewitt, Dr. Frederick D.; 2 Manchester Square, W.

1890. Drummond-Hay, Capt. James A. G. (Coldstream Guards); Seggieden, Perth, N.B.

1878. Durnford, W. Arthur, J.P.; Elsecar, Barnsley.

1896. Duthie, Lt.-Col. W. H. M.; Row, Doune, Perthshire.

1870. Elliot, Daniel Giraud, F.R.S.E., F.Z.S.; Field Columbian Museum, Chicago, U.S.A.

90 1895. Elliot, Edmund A. S., M.R.C.S.; Woodville, Kingsbridge, South Devon.

1884. Elliott, Algernon, Judicial Commissioner, Amraoti Camp, Berar, H.A.D., India.

Date of
Election.

1866. Elwes, Henry John, F.Z.S.; Colesborne, Andoversford, R.S.O., Gloucestershire.

1895. Erlanger, Freiherr Carlo von; Nieder Ingelheim, Rhein Hessen, Germany.

1879. Evans, Arthur Humble, M.A., F.Z.S.; 9 Harvey Road, Cambridge.

95 1888. Evans, William, F.R.S.E.; 38 Morningside Park, Edinburgh.

1892. Fairbridge, William George; 133 Long Market Street, Capetown, South Africa.

1895. Falconer, John J. M.; Magdalene College, Cambridge.

1894. Farquhar, Capt. Arthur M., R.N.; Granville Lodge, Aboyne, N.B.

1898. Farquhar, Lieut. Stuart St. J., R.N.; H.M.S. 'Eclipse,' East India Station.

100 1873. Feilden, Col. Henry Wemyss, C.M.Z.S.; West House, Wells, Norfolk, and Junior United Service Club, S.W.

1897. Fenwick, Edward Nicholas Fenwick; Oxford and Cambridge Club, Pall Mall, S.W.

1886. Ferguson, Lieut. Harold Stuart, Nair Brigade; Trevandrum, Travancore.

1892. Finn, Frank, B.A., F.Z.S.; Indian Museum, Calcutta.

1890. Fisher, Lionel; Kandy, Ceylon.

105 1884. Forbes, Henry Ogg, LL.D., F.Z.S.; Free Public Museums, Liverpool.

1898. Foster, George E.; Brooklands, Cambridge.

1880. Foster, William; Braeside, The Heath, Weybridge.

1887. Fowler, William Warde, M.A.; Lincoln College, Oxford.

1865. Fox, Rev. Henry Elliott, M.A.; Fairview, Kingston Hill, Surrey.

110 1881. Freke, Percy Evans; Step House, Borris, co. Carlow.

1895. Frohawk, Frederick William; 34 Widmore Road, Bromley, Kent.

1881. Gadow, Hans, Ph.D., F.Z.S.; University Zoological Museum, Cambridge.

1886. Gainsborough, Charles William Francis, Earl of; Exton Park, Oakham.

1892. Gerrard, John; Government Inspector of Mines; Worsley, Manchester.

115 1879. Gibson, Ernest; care of Thos. Gibson, Esq., 1 Eglinton Court, Edinburgh.

Date of Election.

* 1858. Godman, Frederick DuCane, F.R.S., F.Z.S.; 10 Chandos Street, Cavendish Square, W. *President.*

* 1858. Godman, Percy Sanden, B.A., C.M.Z.S.; Muntham, Horsham.

1874. Godwin-Austen, Lieut.-Col. Henry Haversham, F.R.S., F.Z.S.; Shalford Park, Guildford.

1884. Goodchild, John G., F.Z.S.; Museum of Science and Art, Edinburgh.

120 1895. Grabham, Oxley, M.A.; The Chestnuts, Heworth, Yorks.

1890. Grant, William R. Ogilvie; 26 Hereford Square, S.W.

1885. Guillemard, F. H. H., M.A., M.D., F.Z.S.; Old Mill House, Trumpington, Cambridge.

1876. Günther, Albert C. L. G., M.A., M.D., F.R.S., F.Z.S.; 2 Lichfield Road, Kew Gardens, S.W.

1898. Gurney, Lieut. Anthony Francis, R.N.; North Runcton Hall, King's Lynn, and H.M.S. 'Widgeon,' Cape of Good Hope Station.

125 1870. Gurney, John Henry, F.Z.S.; Keswick Hall, Norwich, and Athenæum Club, Pall Mall, S.W.

1897. Gurney, J. Nigel; Sprowston Hall, Norwich.

1896. Gurney, Robert; Sprowston Hall, Norwich.

1890. Gwatkin, Joshua Reynolds Gascoign; Manor House, Potterne, Devizes.

1891. Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.

130 1898. Haines, Charles Reginald, M.A.; Meadhurst, Uppingham, Rutland.

1887. Haines, John Pleydell Wilton; The Lodge, Gloucester.

1898. Hale, Rev. James Rashleigh, B.A.; Yalding, Kent.

1886. Hamilton, Edward, M.D., F.L.S., F.Z.S.; 16 Cromwell Place, S.W.

1883. Harcourt, Lewis Vernon; Malwood, Lyndhurst, Hants.

135 1893. Hartert, Ernst; The Museum, Tring, Herts.

1868. Harting, James Edmund, F.L.S., F.Z.S.; Linnean Society, Burlington House, Piccadilly, W.

1896. Hartland, John Coles; c/o Messrs. Hunt & Co., P.O. Box 11, Yokohama, Japan.

1893. Hartmann, William; Tangley Mere, Chilworth, Surrey.

1873. Harvie-Brown, John A., F.Z.S.; Dunipace House, Larbert, N.B.

Date of Election.

140 1898. Hawker, Richard M.; Bath Club, Dover Street, W.

1887. Hebbert, Charles T., F.Z.S.; The Rhodrons, Hook, Kingston-on-Thames.

1897. Hewetson, Henry Bendelack, F.L.S., F.Z.S.; 11 Hanover Square, Leeds.

1895. Hinxman, Lionel W., B.A.; Geological Survey of Scotland, Edinburgh.

1884. Holdsworth, Charles James, J.P.; Kendal, Westmorland.

145 1877. Holdsworth, Edmund W. H., F.Z.S.; South Town, Dartmouth, Devon.

1891. Holland, Arthur H.; Estancia Sta. Elena, Halsey, F. C. O., Argentine Republic, and Holmhurst, Copse Hill, Wimbledon, S.W.

1888. Horsfield, Herbert Knight; Ivy Lodge, Chapel Allerton, Leeds.

1893. Hose, Charles, F.Z.S.; Baram, Sarawak, Borneo.

1895. Howard, Henry Eliot; Stone House, Kidderminster.

150 1881. Howard, Robert James; Hawkhurst, Blackburn, Lancashire.

* 1858. Hudleston, Wilfrid Hudleston, M.A., F.R.S., F.Z.S.; 8 Stanhope Gardens, S.W.

1893. Hudson, William Henry, F.Z.S.; Tower House, St. Luke's Road, Westbourne Park, W.

1869. Hume, Allan Octavian, C.B., C.S.I., F.Z.S.; The Chalet, Kingswood Road, Upper Norwood, S.E.

1890. Hunter, Henry Charles Vicars; Mawley Hall, Cleobury Mortimer, Salop.

155 1870. Hylton, Hedworth Hylton, Lord, F.Z.S.; Merstham House, Red Hill, Surrey.

1870. Irby, Lieut.-Col. Leonard Howard L., F.Z.S.; 14 Cornwall Terrace, Regent's Park, N.W.

1888. Jackson, Frederick J., F.L.S., F.Z.S.; The Red House, Aldeburgh, Suffolk.

1892. James, Henry Ashworth; 11 Oxford Square, Hyde Park, W.

1896. Jesse, William; La Martinière College, Lucknow, Oudh, India.

160 1889. Johnson, Frederick Ponsonby; Castlesteads, Brampton, Cumberland.

1891. Johnston, Sir Harry Hamilton, K.C.B., F.Z.S.; H.B.M.'s Consul-General, Tunis, North Africa.

Date of Election.

1880. Kelham, Major Henry Robert (1st Bn. Highland Light Infantry); 2 Salisbury Road, Hove, Brighton.

1894. Kelsall, Capt. Harry Joseph, R.A.; Rangoon.

1897. Kelsall, Rev. John Edward, M.A.; Milton Rectory, Lymington, Hants.

165 1882. Kermode, Philip M. C.; Hillside, Ramsay, Isle of Man.

1891. Kerr, J. Graham; Christ's College, Cambridge.

1895. Kingsford, William Edward; Maybury Road, Woking, Surrey.

1882. Knubley, Rev. Edw. Ponsonby, M.A.; Steeple Ashton Vicarage, Trowbridge.

1892. Laidlaw, Thomas Geddes; Bank of Scotland, Morningside Branch, Edinburgh, and 8 Morningside Road, Edinburgh.

170 1884. Langton, Herbert; 11 Marlborough Place, Brighton.

1881. Lascelles, Hon. Gerald; Queen's House, Lyndhurst.

1892. La Touche, John David Digues; Chinese Imperial Maritime Customs, Foochow, China.

1892. Laws, Arthur Moore; Buluwayo Engineering and Wagon Works, Buluwayo, Matabeleland, South Africa.

1898. Learoyd, A. Ernest; Rawthorpe Hall, Huddersfield.

175 1876. Legge, Col. William Vincent (late R.A.), F.Z.S.; Cullenswood House, St. Mary's, Tasmania.

1898. Le Souëf, Dudley; Zoological and Acclimatisation Society, Zoological Gardens, Melbourne.

1868. Le Strange, Hamon, F.Z.S.; Hunstanton Hall, King's Lynn, Norfolk.

1875. L'Estrange, Col. Paget Walter, R.A.; Llwynbedw, Boncath, R.S.O., South Wales.

1893. Lewis, Frederick; Assistant Conservator of Forests, c/o The Forest Department, Colombo, Ceylon.

180 1889. Leyland, Christopher John; Haggerston Castle, Beal, Northumberland.

1897. Lilford, John, Lord, F.Z.S.; Lilford Hall, Oundle, Northants.

1874. Lloyd, Col. John Hayes, F.Z.S.; 95 Adelaide Road, N.W.

1898. Loat, William Leonard S., F.Z.S.; Newland, Coleford, Gloucestershire.

1897. Lodge, George Edward, F.Z.S.; 5 Verulam Buildings, Gray's Inn, W.C.

185 1889. Loyd, Major Arthur Purvis, F.Z.S. (late 21st Hussars); Harnham Cliff, Salisbury.

Date of Election.

1896. Lubbock, Percy; 26 Cadogan Gardens, S.W.

1877. Lumsden, James, F.Z.S.; Arden House, Alexandria, N.B.

1896. Luttman-Johnson, James Arthur, M.A.; 101 Mount Street, W.

1897. McLean, John Chambers; Waikohu Station, Te Karaka, Gisborne, New Zealand.

190 1894. Macpherson, Arthur Holte; 51 Gloucester Terrace, Hyde Park, W.

1886. Macpherson, Rev. Hugh Alexander, M.A.; Allonby Vicarage, Maryport, Cumberland.

1875. Malcolm of Poltalloch, John Wingfield, Lord, C.B., F.Z.S.; Poltalloch, Lochgilphead, Argyllshire, and 23 Great Cumberland Place, W.

1894. Marshall, Archibald McLean; Ard's Place, Aberlady, Longniddry, N.B., and 29 Queen's Gate Gardens, S.W.

1894. Marshall, James McLean; Ard's Place, Aberlady, Longniddry, N.B.

195 1897. Mason, Col. Edward Snow; 20 Minster Yard, Lincoln.

1898. Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.

1878. Mathew, Rev. Murray A., M.A., F.L.S.; Buckland Dinham, Frome, Somersetshire.

1898. Maxwell, Aymer Edward; Grenadier Guards, Chelsea Barracks, S.W.

1896. Maxwell, Rt. Hon. Sir Herbert E., Bt., M.P., F.R.S.; 49 Lennox Gardens, S.W.

200 1883. Meade-Waldo, Edmund Gustavus Bloomfield, F.Z.S.; Stonewall Park, Edenbridge, Kent.

1886. Millais, John Guille, F.Z.S.; Melwood, Horsham.

1879. Mitchell, Frederick Shaw; Clyderhowe, Edmonton, Alberta, N.W.T., Canada.

1897. Mitchell, William; 16 Grosvenor Street, W.

1892. Mivart, St. George, Ph.D., M.D., F.R.S.; 77 Inverness Terrace, W., and Oriental Club, Hanover Square, W.

205 1890. Monk, Thomas James; St. Anne's, Lewes, Sussex.

1898. Monro, Horace Cecil; Queen Anne's Mansions, Queen Anne's Gate, S.W.

1886. Muirhead, George, F.Z.S.; Mains of Haddo, Aberdeen.

1893. Mullens, William H., M.A., F Z.S.; 9 St. James's Place, S.W.

1892. Munn, Philip Winchester; Laverstoke, Whitchurch, Hants.

210 1897. Munt, Henry; 83 Kensington Gardens Square, W.

1885. Neale, Edward; 43 Charlotte Street, Portland Place, W.

Date of Election.

1882. Nelson, Thomas Hudson; The Cliffe, Redcar, Yorkshire.

1895. Nesham, Robert; Utrecht House, Queen's Road, Clapham Park, S.W.

1897. Neumann, Oscar; 10 Potsdamer Strasse, Berlin, W.

215 1898. Newall, Arthur; Wilsford House, Salisbury.

1872. Newcome, Francis D'Arcy William Clough; Feltwell Hall, Brandon, Suffolk.

* 1858. Newton, Alfred, M.A., F.R.S., F.Z.S., Professor of Zoology in the University of Cambridge; Magdalene College, Cambridge.

1886. Nicholls, Howard Hill John, M.R.C.S.; 1 Hardwick Road, Eastbourne.

1876. Nicholson, Francis, F.Z.S.; 84 Major Street, Manchester, and Heathside, Knutsford, Cheshire.

220 1895. Noble, Heatley; Temple Combe, Henley-on-Thames.

1887. Norman, George Cameron, F.Z.S.; 68 Lombard Street E.C., and Bredon's Norton, Tewkesbury.

1882. Oates, Eugene William, F.Z.S.; 1 Carlton Gardens, Ealing (Broadway), W. *Secretary and Treasurer.*

1892. Ogilvie, Fergus Menteith, M.A., F.Z.S.; 5 Evelyn Mansions, Carlisle Place, Victoria Street, S.W.

1889. Ogle, Bertram Savile; Hill House, Steeple Aston, Oxford.

225 1883. Parker, Henry, C.E., F.Z.S., Irrigation Officer, P.W.D.; Kurunegala, Ceylon.

1880. Parkin, Thomas, M.A., F.Z.S.; Fairseat, High Wickham, Hastings.

1891. Patterson, Robert, F.Z.S.; Malone Park, Belfast.

1884. Patterson, R. Lloyd, F.L.S.; Croft House, Holywood, co. Down.

1894. Pearson, Charles Edward; Chilwell House, near Nottingham.

230 1891. Pearson, Henry J.; Bramcote, Notts.

1898. Penn, Eric Frank; Taverham Hall, Norwich.

1891. Penrose, Frank, M.D.; 84 Wimpole Street, W.

1886. Phillips, E. Lort, F.Z.S.; 79 Cadogan Square, S.W.

1888. Phillips, George Thorne; Wokingham, Berkshire.

235 1893. Pigott, Thomas Digby, C.B.; 5 Ovington Gardens, S.W.

1893. Pike, Thomas Mayer, M.A.; care of Mr. Porter, 7 Prince's Street, Cavendish Square, W.

1896. Popham, Hugh Leyborne, M.A.; Woodend, Bournemouth, and Oxford & Cambridge Club, Pall Mall, S.W.

Date of
Election.

1898. Price, Athelstan E.; Broxbourne, Herts.

1893. Pycraft, William Plane; British Museum (Natural History), Cromwell Road, S.W.

240 1888. Radclyffe, Charles Robert Eustace; Hyde, Wareham, Dorset.

1879. Rawson, Herbert Evelyn, F.Z.S.; Fallbarrow, Windermere.

1894. Read, Richard Henry, L.R.C.P., M.R.C.S.; Church Street, Hanley.

1888. Read, Robert H.; 7 South Parade, Bedford Park, W.

1877. Reid, Capt. Savile G. (late R.E.), F.Z.S.; The Elms, Yalding, Maidstone.

245 1893. Rendall, Percy, M.D., F.Z.S.; Ewell, Surrey, and Devonshire Club, St. James's Street, S.W.

1895. Rickett, Charles Boughey; Hong Kong and Shanghai Bank, Foochow; care of H. S. King & Co.

1898. Riddell, Edward Mitford H.; 9 Minster Yard, Lincoln.

1896. Rippon, Major George; 29th Madras Infantry, Fort Stedman, Burma.

1898. Robinson, Herbert C.; Holmwood, Aigburth, Liverpool.

250 1896. Rogers, Capt. J. Middleton, F.Z.S.; 1st (Royal) Dragoons, and Riverhill, Sevenoaks, Kent.

1893. Rothschild, The Hon. L. Walter, F.Z.S.; The Museum, Tring, Herts.

1894. Rothschild, The Hon. N. Charles, F.Z.S.; Tring Park, Tring, Herts.

1883. St. Quintin, William Herbert, F.Z.S.; Scampston Hall, Rillington, Yorkshire.

1870. Saunders, Howard, F.L.S., F.Z.S.; 7 Radnor Place, Hyde Park, W. '*Editor Ibis.*'

255 1898. Scherren, Henry; 9 Cavendish Road, Harringay, N.

* 1858. Sclater, Philip Lutley, M.A., Ph.D., F.R.S., Secretary to the Zoological Society of London, 3 Hanover Square, W., and Odiham Priory, Winchfield. *Editor* '*Ibis.*'

1891. Sclater, William Lutley, M.A., F.Z.S.; South African Museum, Capetown, South Africa.

1889. Senhouse, Humphrey Patricius, B.A.; The Fitz, Cockermouth, Cumberland.

1871. Sharpe, Richard Bowdler, LL.D., F.L.S., F.Z.S.; Senior Assistant, Zoological Department, British Museum (Natural History), South Kensington, S.W.

Date of Election.

260 1870. Shelley, Capt. G. Ernest, F.Z.S. (late Grenadier Guards); Tower House, Reigate, Surrey.

1865. Shepherd, Rev. Charles William, M.A., F.Z.S.; Trotterscliffe Rectory, Maidstone, Kent.

1894. Shirley, Sewallis Evelyn; Ettington Park, Stratford-on-Avon.

1881. Simson, Francis Bruce, F.Z.S.: Broom Hill, Spratton, Northampton.

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265 1864. Smith, Rev. Alfred Charles, M.A.; Old Park, Devizes, Wilts.

1896. Sondes, Earl; Lees Court, Faversham.

1881. Southwell, Thomas, F.Z.S.; 10 The Crescent, Chapel Field, Norwich.

1893. Stanley, Samuel S.; 3 Regent Grove, Leamington, Warwickshire.

1875. Stark, Arthur Cowell, M.B. & C.M. (Edin.), F. R. Phys. Soc. (Edin.); Eccleston, Torquay, and Bertram House, Capetown, South Africa.

270 1898. Stirling, William, J.P., D.L. Co. Ross; Monar, Ross, and Kinellan Lodge, Strathpeffer, N.B.

1889. Stoate, William; Ashleigh, Burnham, Somerset.

1893. Stonham, Charles, F.R.C.S., F.Z.S.; 4 Harley Street, Cavendish Square, W.

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275 1887. Styan, Frederick William, F.Z.S.; Ben Craig, Bayham Road, Sevenoaks, and Shanghai, China.

1887. Swinburne, John; Carlton Lodge, Câtel, Guernsey.

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280 1873. Tegetmeier, William Bernhard, F.Z.S.; 16 Alexandra Grove, North Finchley, N.

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295 1895. Wallis, Henry Marriage; 6 Southern Hill, Reading.
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300 1884. Whitaker, Joseph, F.Z.S.; Rainworth Lodge, Mansfield, Notts.
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310 1897. Witherby, Harry F.; Heathfield, Eliot Place, Blackheath, S.E.

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1893. Reichenow, Dr. Anton, C.M.Z.S.; Museum für Naturkunde, Invalidenstrasse, Berlin.

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15 1894. Pleske, H.E. Dr. Theodor, F.M.Z.S.; Office of the Company "Nadeshda," St. Petersburg.

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1880. Ridgway, Robert, C.M.Z.S.; Smithsonian Institution, Washington, D.C.

1894. Schalow, Herman; 15 Schleswiger Ufer, Berlin, N.W.

1896. Winge, Herluf; University Zoological Museum, Copenhagen.

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CENTRAL PARK
NEW YORK

THE IBIS.

SEVENTH SERIES.

No. XIII. JANUARY 1898.

I.—*A Short Trip to Kashmir.*

By J. Davidson, F.Z.S., M.B.O.U.

For many years I had been planning a birds'-nesting trip to Kashmir, but difficulties as to leave and other matters always came in the way, and it was not till the close of my Indian service, in March 1896, that I found myself at liberty and able to undertake the trip.

I was fortunate enough to persuade Mr. Bell, of the Forest Department, to take three months' leave and accompany me. Although he had for many years been a devoted collector of Lepidoptera and Coleoptera, he had previously not taken any special interest in birds or their eggs; he, however, became even more enthusiastic, if possible, than myself, and the energy and activity which a very considerable advantage in years gave him made him not only most valuable as an assistant, but deserving of certainly at least an equal share of the considerable success we had on our expedition. As his time was strictly limited to three months, and as the long journey to Kashmir from North Kanara and back was bound to take up a large portion of our time, it was necessary to select our date of starting so as to bring us on to the best ground during the cream of the collecting-season. It was therefore, after a careful perusal of all the authorities to which we had access, decided that we should leave Bombay on the evening of the 13th April. This season seemed the best, according to the results of the trip of the late Major Cocks and Mr. Brooks in 1872, and the notes on birds in Mr. Lawrence's recent work on Kashmir; unfortunately, however, we had not taken into account the fact that the seasons in the Himalayas vary from year to year, and that 1896 was remarkable for a heavy snowfall, with the consequence that flowers, fruits, and birds were nearly a fortnight later than usual. We therefore, on our arrival, found that for the first fortnight hardly any birds had commenced to build, and we had to leave Sonamurg (the furthest point we reached) at a time that we were taking forty or fifty eggs a day, and when several of the most interesting birds were only building their nests. This was a great disappointment, but notwithstanding we were very successful; and as I can find no previous records about some of the birds found breeding, I think it worth while to give a short account of our trip.

Leaving Bombay on the night of the 13th April, we reached Lahore on the morning of the 16th, and spent the day there visiting the Zoological Gardens, which were principally interesting from the number of wildfowl on the sheet of water in the centre. In the station we saw nothing noteworthy except that *Palæornis magnirostris*, which I had only previously seen as a wary inhabitant of the Satpura Hills, was in pairs, and flying about as devoid of fear of man as the familiar *P. torquatus*.

We left Lahore in the evening, reached Rawal Pindi at noon next day, and left again before daybreak on the 18th, reaching Murree in time for a late breakfast. We found Murree intensely cold during the three days we spent there, while our servants and tents were being carried by "ekka" along the Jhelum. Birds were numerous, though the only ones we saw breeding were *Stoparola melanops* and *Ægithaliscus erythrocephalus*. The former were busily employed in making nests in holes under the culverts along the roads on the hill, and we saw a pair of the latter carrying feathers in their mouths. We were, however, surprised to see butterflies, and we spent our time most happily in capturing many that we had not previously seen alive.

We left Murree in a tonga on the morning of the 22nd, and crossed the Kohala bridge over the Jhelum about midday, reaching Garhi in time for dinner, and next day we drove along the Jhelum, reaching Baramula about 4 P.M. We found our boats and servants waiting for us, and went a mile or two up the river to escape the numerous merchants beseeching orders for everything from Kashmir silver-ware and shawls to leather shoes.

Between Murree and Baramula we saw a good many birds, and made our first acquaintance with several charming songsters, such as *Chimarrhornis leucocephalus* and *Rhyacornis fuliginosus.* We saw also *Palæornis schisticeps*, with its beautiful yellow tail, in flocks, and occasional pairs all along the Jhelum till about seven or eight miles from Baramula, when it disappeared, and we never saw it on the other side of the Pir Punjal range. The European Cuckoo was heard everywhere along the road, and indeed every day till we left Kashmir.

On the 24th and 25th April we were towed up the Jhelum between Baramula and Srinugger, we ourselves walking along the banks most of the way, carrying butterfly-nets and guns. We saw, however, very few birds. Starlings and Jackdaws (*Sturnus humii* and *Corvus monedula*) were in large flocks, and occasionally we saw a pair building. *Upupa epops* and the common Kashmir Thrush (*Merula unicolor*) were in pairs everywhere, while the banks were full of House-Sparrows building in slight holes in the ground. On the way we saw a small flock of *Merula atrigularis,* one of which I missed; they were evidently passing through, and our general impression of this district was that it was very birdless. There were a good many Kites along the river; we shot one, a fine male of *Milvus melanotis,* and took two nests of this bird with one and two fresh eggs respectively. Most, if not all, the Kites along the river seemed to be of this species, while higher up the Sind River the few Kites we saw appeared to be very small, and wanted the large conspicuous white patch on the underwing. We, however, never got a chance of shooting a Kite in the Sind Valley.

There were a pair of *Haliaëtus leucoryphus* every two or three miles along the river, and Mr. Bell saved one of these from an untimely end. The bird had in some way got a leg caught between two crooked branches in the extreme top of a mulberry-tree, and must have been there a long time, as it was hanging downwards, apparently dead, and looking in the distance like a piece of cloth. When we got close, however, it made a feeble attempt to flap, and Mr. Bell insisted on risking his neck in climbing up, when he managed with difficulty to release it; it then slowly flew away, and alighted on a tree a hundred yards off. It is difficult to see how it could have got caught between the branches.

We reached Srinugger on the night of the 25th, and stayed there till the 30th, making arrangements for our trip. We saw few birds at Srinugger except those of species observed on the road up the Jhelum. On the Tukht-i-Suliman a few birds were commencing to build, and on the 29th we found there several nests of *Sylvia affinis* and *Emberiza stewarti* just finished, and one nest of the former with four fresh eggs. We also found a nest of the Himalayan Goldfinch (*Carduelis caniceps*) nearly finished; this we left in charge of one of the boatmen, with orders to send it on with its contents ten days later.

On the 30th of April we went to Gandarbal, at the mouth of the Sind River, where we stayed till the morning of the 2nd May, but found there only the birds we had previously met with on the Tukht-i-Suliman. Several of the *Sylvia affinis*, however, had eggs, as also had some Jackdaws. We left on the 2nd, and made four marches to Sonamurg, seeing some interesting birds by the way, and also large flocks of migrating Pipits passing up the Sind-River Valley. The only kind we were able to identify was *Anthus rosaceus*.

Sonamurg itself we found almost covered with snow, and though we saw a couple of nests of *Myiophoneus temmincki* finished, the inducements to stay were very small, and we marched back again on the 8th. Returning, in the Sind gorge we found a nest of *Cinclus asiaticus* in process of formation, and were interested in watching from across the stream the bird collect a quantity of moss and then dive through the water to the bank on which it was evidently building. Poor deluded bird! it had chosen a position for its nest which would have been two feet under water when the melting of the snows caused the river to rise. This species, however, generally seemed to succeed in rearing its young, and does not suffer so terribly as the Wagtails (*Motacilla hodgsoni* and *M. melanope*), which habitually breed under stones on the islands, and the nests of which were frequently washed away, often before the full clutches, for which we were waiting, were laid.

We camped at Gund on the 9th of May, and remained there till the 31st, finding one or two nests daily till the 20th, by which time nidification was in full swing, and we used to take many clutches of eggs every day. Gund, which is at an elevation of about 6500 feet, is a narrow plateau bounded by high hills, some of which are well over 12,000 feet. On the right bank (ascending) these are well wooded almost to the very tops, while on the left bank, except in a few places, the hills are bare and grassy; the lowest 300 feet or so being covered by a quantity of a shrub with bright purplish-red flowers, among which *Emberiza stracheyi*, *Pratincola maura*, *Sylvia affinis*, *Horornis pallidus*, and other birds breed in abundance. Our principal hunting-ground, however, was on the wooded side, and there we had very fair success. But we found so many of the birds we specially hoped to obtain either absent or rare that on the 31st we started for Gangadgir, and again reached Sonamurg on the 1st June. We stayed there till the 17th June, and then left, most reluctantly, as our time was drawing to a close.

Sonamurg, which has been often described, is a broad plateau of some two miles square, containing a few low hills, which are sparingly wooded; it is surrounded by lofty hills, snow-capped on the right bank of the river, but bare on the other side. Its elevation is 8600 feet, and the hills around must be at least 3000 feet higher. On the 1st June we found birds, as a rule, only completing their nests; but towards the close of our stay we obtained ten or fifteen nests daily, mainly on the very steep wooded hills to the right of the river. Oddly enough, we did not find anything of the least value on the right bank of the tributary joining the Sind River on its right bank, though the forest seemed very tempting.

Leaving Sonamurg on the 17th of June, we marched back to Gandarbal, giving up a day (the 19th) to visit our old haunts at Gund. We found there, however, that the nesting season was over, and that birds had young, in most cases already flying.

We reached the foot of the Sind River at Gandarbal on the 20th, and had a day on the marshes, which we found were full of birds breeding. We then spent a couple of days at Srinugger, one devoted to the Tukht-i-Suliman, and the other to the Dal Lake. The former was not a success, but the morning we spent on the Dal Lake produced some 200 eggs, though we did not molest the common species, such as *Gallinula chloropus* and *Podicipes minor*. We then returned the way we had come, reaching Bombay on the 6th July.

In a trip of this description, extending over such a short period, of course very many birds must have been overlooked, and the notes as to the birds we observed must be very sparse; still during our trip we worked hard, leaving our tents generally soon after 6 in the morning, and working till 12 or 1, when we returned to breakfast. Between then and 4 we were generally fully employed blowing eggs (for we blew the rarest ourselves, not trusting them to my skinner), putting insects in papers, and making notes. After 4 we used to spend the time till dark in collecting. On such days as we had not enough to keep us employed at home from 1 to 4 we used to go for a stroll near the tents. We thus managed to get a good many hours' hard work every day, and noticed the following birds, all of which we found in Kashmir territory, this list not including species seen at Murree before we crossed the frontier. The names used in this list are mostly those of 'The Fauna of British India,' by Oates and Blanford.

1. CORVUS MACRORHYNCHUS Wagl.

This Crow was common all along the Sind Valley as far as Sonamurg, and also in the Jhelum Valley between Kohala and Baramula. In the Valley of Kashmir proper, with the exception of a pair on the Tukht-i-Suliman in Srinugger, we did not meet with it. We took fresh eggs from the beginning of May in various places in the Sind Valley.

2. CORVUS SPLENDENS Vieill.

This species we noticed abundantly about Srinugger and along the Jhelum between that place and Baramula, but we never saw the bird anywhere in the Sind Valley. The Kashmir birds are almost white, so much so that we did not recognize the species on first meeting with it. Their young were flying in the neighbourhood of Srinugger in the end of June.

3. CORVUS MONEDULA Linn.

Noticed first at Uri in the Jhelum Valley on April 23rd, where Jackdaws were building in the fort, and from there in numbers in every village between Baramula and Srinugger. We found them in abundance in the Sind Valley as far as Gund in the beginning of May, and later on they appeared in considerable numbers at Gangadgir (7000 feet), at the foot of the gorge leading up to Sonamurg. We, however, never met with any at Sonamurg, and they do not seem to enter the gorge at all. We saw some nests in holes in buildings in Srinugger, and in holes in banks along the Jhelum, but the vast majority were in holes in trees, especially of chunar-trees; many being several feet from the mouth of the holes. The eggs were laid in the first three weeks of May, and varied much, as they do in Europe. We saw a single pair of birds building on the 21st June at Gandarbal, where there were many young flying, so it is likely that some at least breed twice in the year.

4. Urocissa flavirostris (Blyth).

This Magpie we found only twice in Kashmir: once on May 3rd near Kagan, the second stage in the Sind Valley, where we saw three together; and again I saw and shot a single specimen at Kulan, eighteen miles further up the river, on the 9th.

5. Nucifraga multipunctata Gould.

We found this species in pairs in the neighbourhood of Gund during the month of May. The birds were very tame and noisy, mobbing Owls, and walking on the ground quite close to us. We saw no signs of their breeding; a specimen shot on the 4th May was also not breeding. On the 31st May we saw five or six together at the foot of the gorge on the Sind River. We did not notice any at Sonamurg, nor at Gund on our return in June. They possibly had gone somewhere further north to breed; but as the bird is considered a very early breeder we had fully expected to find their nests, and frequently watched them for long periods.

6. Graculus eremita (Linn.).

There were large flocks of this and the succeeding species at Sonamurg on May 7th, feeding on the plateau and the sides of the bare hills; but, with the exception of a single pair, all had left by the 1st of June, when we returned to Sonamurg. This pair we saw daily; they seemed to come from some cliffs above the wooded hill below the village; the place, however, was quite inaccessible.

7. Pyrrhocorax alpinus (Linn.).

This bird was certainly the commoner of the two species of Choughs on May 7th, but was much more shy. We never came upon it again. Both species were found in the same flock.

8. Parus atriceps Horsf.

This Tit was common at Srinugger, and also along the Sind Valley from Kagan to Gangadgir (7000 feet), but we did not see it at Sonamurg, or at an altitude of above 7000 feet. We obtained numerous nests between the 19th and 31st May in holes, at various heights in trees, both dead and growing; the eggs being generally from five to seven in number, and deposited in the usual beds of hair and moss.

9. PARUS MONTICOLA Vig.

This Tit was decidedly rare, and noticed by us only on a few occasions in the neighbourhood of Gund, and then only in the denser forests. The only nest we obtained was very deep down in a hole in a small tree some dozen feet from the ground, and on the 29th May, when we found it, it contained six well-grown young.

10. LOPHOPHANES MELANOLOPHUS (Vig.).

This was the common Tit at all elevations above 7000 feet. It was in flocks at Sonamurg on the 5th May, but paired immediately afterwards, as we saw a pair building on the 8th. We took several nests between the 24th May and the 16th June; that taken on the 24th May containing seven eggs just being hatched, while one of those taken on the 16th June contained six fresh eggs. The nests were at various heights, but most did not exceed four or five feet; we found one, however, over forty feet from the ground. All were in holes in trees, but generally so near the entrance that it was easy to get at the nests by merely breaking away the rotten wood round the hole with a knife. They consisted of a little moss, lined with a thick patch of hair. The number of eggs was in all cases five, six, or seven. The eggs are large for the size of the bird and very thickly spotted; they vary considerably in size, in one clutch being nearly as large as those of *Parus atriceps*.

11. TROCHALOPTERUM LINEATUM (Vig.).

This Babbler was very common all along the Jhelum Valley from Kohala to Baramula, and in the neighbourhood of Gund in the Sind Valley. We did not see it anywhere above 7000 feet. We found many of its nests, containing three or four eggs, either in the scrub at the foot of the hills or in the lower branches of fir-trees in the forest close to the base of the hills.

12. Myiophoneus temmincki Vig.

This bird was common along the Jhelum Valley from Kohala (2500 feet) to Baramula (5000 feet). We did not notice it in the Valley of Kashmir proper, but there the country was not suited to it; it was very common from Kagan to Sonamurg, along the Sind River and its tributaries. We found many of its nests, placed from a foot above the level of the river, in low rocky banks, to the sides of precipitous cliffs quite inaccessible to the climber. Although the number of nests found was very large, the proportion of those with eggs or young was very small, and the birds apparently build and desert a number of nests without laying in them. In many cases we found two new nests within a yard or two of each other, but in no case did we find more than one nest occupied, and in many cases both were deserted. The number of eggs or young was either three or four.

13. Larvivora brunnea Hodgs.

This is a rather late migrant, which we did not notice till the 11th May, when we saw a pair at Gund. Next day we saw a small flock of half a dozen males, and after that they became quite common. We found them equally so at Sonamurg. They have a pleasant song, and the males are very bold, singing loudly in almost every piece of thick jungle; the females, on the other hand, were very shy, and except occasionally for a glimpse of a brown bird, which was either this or *Ianthia rufilata,* we hardly saw any. On the 11th June, at Sonamurg, my companion started a bird from a nest with three eggs; it was built on the ground, against one of three fallen pines lying together; he waited an hour or so, but the bird did not return. Next morning he found the bird on the nest, which then contained four eggs; but though he devoted a couple of hours to watching the nest, he did not manage to get a shot. Next day we tried to drive the bird, but she rose wild, and disappeared at once in the thick undergrowth. I then sat over the nest, and in half an hour she returned and perched on a bare stump some sixty yards off. Through the glass I could be quite certain as to the bird, but I wanted the specimen, and waited; she dropped into the undergrowth and disappeared, so after half an hour I went to the nest, when she fluttered off at my feet, disappearing in the bushes before she had gone ten yards. I then sat near the tree she had formerly lit upon, but she never showed, and on my again approaching the nest she rose wild, and again at once disappeared. I then went back to my original place, and in a few minutes she hopped on to the stump to which she had originally gone, and I secured her with a fortunate long shot. The nest was on almost bare ground between the fallen tree and a bare branch, and was a very large and loose mass of dead and decayed leaves, lined with a very few horse-hairs. On the 14th we found another nest of a similar description with four eggs, pretty hard set. It was in a hole in the ground in thick forest. In both cases the eggs were of a pale spotless blue. All previous records as to this bird to which we have access describe the nest as built in a hole in a tree, and the eggs as brownish or greenish mottled with red; and as there is no possibility of a mistake having occurred in our case, we think it probable that previous observers must have been mistaken and assumed that a *Larvivora* found in the neighbourhood of a nest of some *Cyornis* or other Robin was its owner.

14. HODGSONIUS PHŒNICUROIDES (Hodgs.).

We did not notice this bird till we reached Sonamurg in June; but there we found it not uncommon over a limited area along the edge of the forest on the right bank of the river. We never saw it more than a hundred yards from the verge of the forest, and it did not seem ever to enter the high forest, keeping among the bushes along its border. On returning we noticed one or two pairs between Gangadgir and Kulan in a similar situation. The male has the habits of a Robin, hopping about with its tail over its back, and is very pugnacious to other birds trespassing in its vicinity. Both sexes, however, were partial to thick cover, and, except in the neighbourhood of the nest, were very shy. When, however, the nest was approached anywhere within a hundred yards or so, the female appeared, sometimes accompanied by the male, and both kept in the vicinity of the searcher; and when the nest itself was discovered there could be no doubt as to the owner, as the female invariably appeared and kept moving about in the bushes within half a dozen yards, uttering a loud chattering cry.

We found nine or ten nests, all similar, and placed in low bushes, generally about one or one and a half feet from the ground, and not in the least concealed. They were thick, deep cups, made of rough grass; one measured six inches in diameter outside, and two and three quarter inches inside, while the depth inside was four and a half inches. Internally they were lined with a few dead leaves, some fine grass, grass-roots, and a few feathers, and were most untidy structures. In all cases in which a full clutch had been laid the number of eggs was three; these were of a deep dark blue and unmarked, and varied somewhat in size. In one case we found two eggs of the usual type, and a pale blue egg considerably larger; this was no doubt an egg of *Cuculus canorus*, one of which kept constantly in the neighbourhood, frequently lighting on the tops of the little patch of bushes in which this nest was. There were two other nests of *Hodgsonius* in the same place, *i. e.* within a couple of hundred yards, one just finished and one containing a single egg; but unfortunately we had to leave next day, and so could not find out whether, as I think is likely, the Cuckoo laid eggs of a similar blue colour also in these nests. In the published description of the male of *Hodgsonius* by Oates no mention is made of the white feathers on the tip of the wing; these are very noticeable when the bird is alive, but in dried skins are pretty well concealed by the other feathers.

15. Zosterops palpebrosa (Temm.).

Only noticed once in Kashmir, at Garhi, in the Jhelum Valley.

16. Cephalopyrus flammiceps (Burton).

This lovely little bird we found moderately common at

Sonamurg and at Gund, generally keeping pretty high on the hills, above 7000 feet. It is shy, and usually seen flitting about the tops of the trees and difficult to trace to its nest. We were very unlucky in getting its nests. Of four which we found, the first, discovered on the 12th May, was empty; another, discovered on the 23rd, contained three young ones, just hatched, and a rotten egg; a third, seen at Sonamurg on the 10th June, had three large young ones, while a fourth nest, apparently containing young, was quite unapproachable. All the nests were in holes in rotten boughs or thin dead trees, from twenty to forty feet from the ground. There was little in the way of a nest. The rotten egg and the fragments of the shells were of a uniform pale blue devoid of markings, much of the same shade of blue as those of *Zosterops palpebrosa.*

17. Hypsipetes psaroides Vig.

This Bulbul was common along the Jhelum Valley from near Kohala to Murree, and again up the Sind Valley, from the neighbourhood of Kagan to Gangadgir. It does not seem to come higher up the river, nor did we find it in any case high up the hills. We took two nests at Kagan on the 20th and 21st June with three fresh eggs and three young respectively. They were ordinary Bulbuls' nests, about fifteen feet up small trees.

18. Molpastes leucogenys (Gray).

This is a very common and familiar bird along the Jhelum Valley and in the Valley of Kashmir. It was common in the Sind Valley at Gandarbal; a few pairs were noticed near the river at Kagan, and a pair was seen on one occasion at Gund. We got nests in small bushes at Gandarbal in the third week of June.

19. Sitta leucopsis Gould.

This was the only Nuthatch noticed in Kashmir. It was common at Sonamurg, and less so on the higher hills above Gund, but did not seem there to come within a thousand feet of the river. It has a wailing cry, more like that of a mammal than of a bird, and this cry it was incessantly uttering. We saw several nests between May 24th and June 12th: all were in holes in the trunks of dead trees, at heights generally of from twenty to forty feet from the ground, but only two of the trees were climbable. Both nests contained four fresh eggs of a pinky white, with numerous red spots.

20. Dicrurus longicaudatus A. Hay.

Seen sparingly in the Jhelum Valley, the Valley proper of Kashmir, and in the Sind Valley as far up the river as Kagan.

21. Certhia himalayana Vig.

This was the only Creeper we thoroughly identified in Kashmir, though on several occasions we saw what we believed was *Certhia hodgsoni*. But whenever we were able to shoot the bird, it proved to be of this species. We found many nests at Sonamurg, and one on the hills above Gund, in the last week of May and first fortnight in June. All, except one which was in a crevice in a tree, were placed between the bark and the trunk of dead pines; they were composed of decayed wood as a foundation, lined with a little grass, and either wool or feathers. They were at heights of from 10 to 50 feet from the ground, and contained either four or five eggs, some clutches being much more highly coloured than others.

22. Anorthura neglecta (Brooks).

This bird we saw only at Sonamurg, where it was very common, and in its habits it much resembles its English congener. We found many nests in the first fortnight of June. These varied much. Some were placed in the roots of fallen pines, and were large structures of moss, lined with feathers, and with the entrance on one side. Others were in holes in banks or dead trees, and consisted merely of a few feathers separating the eggs from the rotten wood. None were over five or six feet from the ground. Most of the eggs were white spotted with pale red, but others were white or spotted with pale grey. In two cases we found both white and spotted eggs in the same nest.

23. Acrocephalus stentoreus (Hempr. & Ehr.).

This very noisy bird swarmed along the reeds in the Dal and other lakes between Gandarbal and Srinugger. On the evening of the 21st and the mornings of the 22nd and 24th June we searched for nests and found at least fifty; of these about half contained eggs, while in other cases there were young or nests merely being built. They were deep and cup-shaped, and attached to reeds growing in water two or three feet deep. The nests generally contained three eggs, but we found clutches of four and five eggs, and in one case six small young ones in a nest; the nests being generally about a foot above the water.

24. Acrocephalus agricola (Jerd.).

We found this Warbler only in one marsh near Gandarbal, but there, on the 22nd June, it was very common; the birds flying about in pairs, and singing while on the wing. They were evidently only beginning to build, as fully half the nests we found did not as yet contain eggs. We, however, in three or four hours' wading, obtained seven nests with eggs; these were solid cups, built in various water-plants (in one case equisetum), and from one to three feet above the surface of the water; they were composed of rough grass with outwardly some reed-fibre and catkins intermixed, and invariably lined with fine grass, and in two cases one or two feathers. The eggs are miniatures of those of *A. stentoreus*, but not quite so elongated; they are in general boldly marked; in four cases we found clutches of four, and in no other case was this number exceeded.

25. Tribura major (Brooks).

This bird we met with only at Sonamurg, where it was very abundant among the long grass and weeds fringing the forests. It never seemed to enter these more than a very short distance, nor did we find it any distance in the open from the verge of the forests. It is a very shy bird, skulking in the grass, and unwilling to rise unless almost trod upon, when it would fly a few yards and again drop into the grass. We did not see it till the 8th June, when in the evening we heard its perpetual *tic-tic-tic* in the dusk. By the 10th it was very common and calling all day. On the 16th, our last day at Sonamurg, we found four nests just finished, but none containing eggs; these were placed on the ground in thick herbage. These nests we carefully marked, and placed in charge of the village policeman with orders to take them on the 26th. He did so, and reported that one had been destroyed, but sent the others, containing 4, 4, and 3 eggs. These are broad ovals, large for the size of the bird, of a deep pink, mottled all over with round even-sized spots of a deeper colour.

26. Sylvia affinis (Blyth).

This bird we found in great abundance on the bare hills around Srinugger in the end of April, and among the scrub-jungles along the Sind River, as far as Kulan (6800 feet), four or five miles further up than Gund. It was breeding from the end of April to the end of May in low scrub, generally along the nullahs. The nests were neat cups of grass and roots, lined with horse-hair, and generally contained four eggs of the usual Whitethroat type.

On our return to Srinugger in the end of June the hills had got very much burnt up, and we were surprised to find the bird again breeding; but, instead of being among the scrub, the nests were on the outer branches of pine-trees, fifteen and twenty feet from the ground. We found four or five nests in this situation on the Tukht-i-Suliman, all with fresh eggs, and the birds seemed at that time to be restricted to the small scattered pine-wood.

27. Phylloscopus tytleri Brooks.

This bird we found fairly common at Sonamurg along the foot of the hills—*i. e.* just under 9000 feet, but we did not notice it at any lower elevation. We took two nests on the 9th and 11th June; both were in forks of small pollarded trees some twelve or fifteen feet from the ground, and were neat and globular, with the entrance at the side. They were composed of feathers, grass, birch-bark, and hair, the last either horse or mouse. The eggs are pure white, and were four in one nest and five in the other.

28. Phylloscopus tristis Blyth.

This bird we met with only on migration. This was on the 29th April, while passing through a lake near Gandarbal. There were small flocks of Warblers among the bushes in the lake, and the only bird we shot proved to be of this species.

29. Phylloscopus proregulus (Pall.).

We shot our first specimen at Gangadgir on the 8th March, and noticed it later at Gund, high up on the hills, and also at Sonamurg. Nests, which we believe to have been of this bird, were found, one on a fir-tree, about thirty feet from the ground, and near the extremity of the branch, and two others on young firs seven or eight feet from the ground. We had to leave the former nest before the eggs were laid, and both the others were torn down by someone or something.

30. Phylloscopus humii (Brooks).

This bird was not noticed by us except at Sonamurg, where it was excessively common in the forests, from the foot to the top of the hills. Its habits have been fully commented on by Mr. Brooks, and we found no difficulty in taking over a dozen of its nests; these were all on the ground on some bank devoid of thick undergrowth. The eggs vary considerably both in size and markings, but are always pinky-white, more or less mottled with dark pink.

31. Acanthopneuste magnirostris (Blyth).

We first came across this bird on the 1st of June in the gorge of the Sind River, between Gangadgir and Sonamurg, where we were struck by hearing a pretty, clear song of four notes, new to us; and on shooting the songster, to our surprise, instead of, as we had anticipated, proving a Robin, it turned out to be this bird. At Sonamurg we saw and heard it once or twice, in all cases close to nullahs or in the immediate neighbourhood of water. On the 17th June, when returning through the gorge, we found the bird very common among the rocky and tangled jungle on the side of the river, and we heard some pairs singing at Gund on the steep banks of the river, and also in the jungle immediately adjoining the large nullah which enters the Sind River at that place. We devoted several hours to looking for nests, and examined every place we thought possible—hole, tree, bank, and rock,—but without the slightest success, though the birds, or rather one of the pair, came constantly singing around. It is possible that, as this was a late arrival, the species may not have bred by the time we left. We never saw or heard the bird anywhere but in the immediate vicinity of water.

32. ACANTHOPNEUSTE OCCIPITALIS (Jerd.).

A very common bird everywhere in the Sind Valley where there was any forest, and one whose harsh note makes its existence very apparent whenever it occurs. We found many nests in May and June, and certainly did not perceive any shyness on the part of any of the numerous pairs we discovered breeding. The nests were found in all sorts of places, often in holes of trees, both dead and growing, up to, in one case, a height of 20 feet from the ground; in holes also in rocks, banks, and even in the ground and under stones. They were small cups of green moss, and the number of eggs varied from four to six; they were in all cases pure white. We found the egg of *Cuculus poliocephalus* in the nests of this bird and of *Phylloscopus humii.*

33. HORORNIS PALLIDUS (Brooks).

This bird appeared in Gund early in May, and we found it along the bare side of the river up to 7000 feet among the scrub, and also a short distance up the wooded hills. It has a wonderfully clear cry of four or five notes, which, once heard, cannot be mistaken, and this we also heard occasionally in the Jhelum Valley down to 3000 feet, and also at Murree. It is rather a late breeder, as we did not get a nest with eggs till the 27th May. Between that date and the 31st we got several more. The nests were untidy and spherical, of coarse grass, resembling those of a *Munia,* but with an entrance near the top, and lined with feathers. They were placed in thick bushes, generally about two feet from the ground. The eggs in every case were four in number, and were of a uniform purplish-red colour and extremely fragile.

34. Lanius erythronotus (Vig.).

Very common wherever we went in Kashmir up to 6000 feet. It bred in May and June.

35. Pericrocotus brevirostris (Vig.).

A fairly common bird, noticed everywhere in Kashmir where there was any tree-forest, and evidently partially migratory, as several small flocks passed up the Sind Valley, through Gund, in the beginning of May, at a time when the local birds were building their nests. We found several of their nests—in all cases but one on the middle of a horizontal branch of a fir-tree; the exception was in the extreme top of a walnut. The nests are most beautiful cups of moss, lined with fine roots, a little down and hair, and covered outwardly from top to bottom with green lichen. They are, I think, the most beautiful nests I have ever seen. The number of eggs in all full clutches was four.

36. Oriolus kundoo Sykes.

This bird is evidently a migrant in Kashmir. It was common about Srinuggcr in April, but did not reach Gund till well on in May. Further up the river we only saw it once; this was on the 1st June, when a small flock appeared at Sonamurg; they must, however, have passed on, as we did not afterwards see any more there. The young were flying at Gandarbal by the end of June.

37. Sturnus humii Brooks.

Very common in the Valley of Kashmir, breeding in holes in trees in every village there, and fairly common in the Sind Valley, nearly as far as Gund. In June a few came to the villages further up the river, but we did not see any at Sonamurg, or even at Gangadgir. There were four or five eggs, and in one case six, in the various nests we took.

38. Temenuchus pagodarum (Gm.).

We saw a single pair of this bird on the 28th June on the Kashmir side of the Jhelum, a few miles north of Kohala.

39. Acridotheres tristis (Linn.).

Common along the Jhelum Valley as far as Baramula, and also in the Valley proper of Kashmir; it does not, however, seem to enter the Sind Valley, though there were a pair or two at Gandarbal, its mouth.

40. Hemichelidon sibirica (Gm.).

This was one of the latest migrants. We saw a pair near Gund, evidently passing through, on the 23rd May, and we found small flocks and pairs at Sonamurg on the 1st June. These increased in numbers later on, and we discovered nests half built on the 3rd. They, however, take a long time to build, and the nests we found on that date did not contain the full clutch of four until the 16th, but we also saw other nests only in process of building on this later date. With one exception, all the nests found were on the horizontal branches of large spruce firs in very open forest, and generally 30 or 40 feet from the ground. The nests were large, solid, cup-shaped structures of moss, and were placed about halfway along the branch on the upper side. The number of eggs was either three or four. The birds might be said almost to breed in colonies, as in one place we found five nests in a circle with a radius of less than fifty yards. The birds were constantly on the wing, and looked then very much like some small species of *Artamus*. The eggs are of a darkish green, mottled with microscopic dull red spots, giving the eggs a reddish hue, mainly over the larger end. We do not think this bird bred under 9000 feet.

41. Siphia hyperythra Cab.

Common at about an elevation of from 6000 to 7000 feet in the Sind Valley, but not noticed elsewhere. We took nine nests in the neighbourhood of Gund and Kulan, from the 23rd May to the 17th June; this last was, however, no doubt a second nest of a pair previously robbed, as it was in the tree adjoining the former one. These were all in holes in the trunks or boughs at varying heights. Of these two were within 6 feet of the ground, three from 10 to 15 feet, and the others from 20 to 40 feet. They were as a rule composed of dead leaves mixed with moss, and lined with a few feathers and hair; one, however, was composed exteriorly of dead leaves, and interiorly of decayed pieces of wood and one or two horse-hairs. The number of eggs was generally five, and they were of a faint bluish green, much paler than those of *Hemichelidon* or *Alseonax ruficaudus*; they had a series of distinct reddish spots forming a ring round the larger end, and the small end was also of a paler tint than the rest of the egg. In every case the male had a bright red chest, throat, and upper abdomen, with a broad black bar on each side of the throat. The females varied; some having no red on the breast, while others had a distinct reddish tinge.

42. Cyornis leucomelanurus (Hodgs.).

This was a fairly common bird at from 6500 to 9000 feet in the Sind Valley, and we got nests at Gund, in the gorge above Gangadgir, and at Sonamurg, during the last week in May and first fortnight of June. In about half the cases we found the males in the plumage of the female, and in that case, except in size, they looked wonderfully like *Alseonax ruficaudus*, which was common in the neighbourhood.

The position of the nests varied: most were in crevices in trees, but not so deeply as in the case of *Siphia*, and we generally could get out the eggs without requiring an axe. The nests consisted of moss and hair and a few feathers; they were generally low down, in only one case exceeding 10 feet, and that was only 18 feet. In two instances, however, we found nests of this bird placed against the trunks of trees. In these cases, though smaller, they exactly resembled those of *Alseonax ruficaudus*. The eggs were a uniform cream-colour, the thicker portion being a shade darker in some cases.

43. Cyornis superciliaris (Jerd.).

This bird was rare at Sonamurg, where we only saw one pair; but at Gund they were numerous over the wooded hills, generally at an elevation of 7500 feet and upwards. We obtained only three nests there: the first was in the disused hole of a Woodpecker, 20 feet from the ground; the second in the hole of a thin tree only 12 feet from the ground, while the last was over 25 feet, in a rotten branch of a dead tree. The nests were of moss, lined with a few fibres of wood, and the eggs were 5, 4, and 5 respectively. These were taken between the 20th and 28th May.

44. ALSEONAX RUFICAUDUS (Swains.).

This was much the commonest of the Robin-Flycatchers about Gund; higher up, at Sonamurg, we found it rare, only seeing one pair, the nest of which we took on the 12th June with four eggs at the junction of the lowest branch of a spruce fir with the trunk, some ten feet from the ground. At Gund we found many nests; they were large solid cups, generally built within reach or at the most fifteen feet or so from the ground on the stumps of pollarded trees, the branches of which had sprouted and were covered with leaves. In one or two cases we found nests placed against the trunks of large fir-trees. They were composed of moss and lined with hair and feathers, and bound round the outside with spiders' web. The number of eggs was either three or four; they were of a uniform pale olive-green, faintly tinged with pink at the larger end, forming a cap. The birds, though very common, were shy when breeding, and deserted several of the nests we found; they also took so long a time to build that on the 31st May we had to leave nests, which had been found in process of building a fortnight before, either unfinished or without a full complement of eggs.

45. TERPSIPHONE PARADISI (Linn.).

This bird was common in the Jhelum Valley at an elevation of from 4000 to 5000 feet, and about Srinugger and in the Valley of Kashmir generally; we did not notice any in the Sind Valley. The nests about Srinugger and Gandarbal contained well-grown young towards the close of June.

46. PRATINCOLA CAPRATA (Linn.).

We found this bird common both in April and June along the Jhelum, between Kohala and Uri. We did not see it further north or in the Valley of Kashmir proper. At the end of June most of the nests contained fresh eggs.

47. Pratincola maura (Pall.).

This bird was common everywhere we went in Kashmir, but was less common south of the Pir Panjal range and north of Sonamurg. We got nests half built at Srinugger in April, and in the Sind Valley, which we left at the end of June, many pairs were laying for the second time, while lots of young birds were on the wing, and we could have taken many clutches every day between these dates had we wished to do so.

48. Henicurus maculatus Vig.

We were surprised to see so little of this bird ; we only came across it twice on small streams in the neighbourhood of Gund : once in May and once in June.

49. Chimarrhornis leucocephalus (Vig.).

Birds of this attractive species were found in numbers along the Sind River, when we marched up it the first week in May, but they almost immediately deserted the lower portions of the river, and two individuals we saw in May, one at Gund on a tributary and one at Kulan, were evidently merely late passengers. It was not till we reached the gorge below Sonamurg on the 1st June that we again came on the bird in pairs; on that day we found three nests, two in the gorge and one on a tributary of the Sind River. The first few nests were found in a few minutes by watching the birds from the road, the first being in a large crevice in the rock overhanging the road and some fifteen feet above it; it consisted of a huge mass of moss lined with some soft fibre from the river-bank, and contained three eggs, quite fresh. The second was on the opposite side of the river, on a grassy bank, about ten feet from the water; it was, however, unapproachable, as the river was unfordable, while a rocky spur prevented anyone crossing the bridge a mile or two further up and coming down the bank. The third nest was fifty yards from the river in a hole in an old stump. The hole was quite the place for a Tit's nest, and was about ten feet from the ground. A boy sent up announced eggs, and not knowing their size and colour I spent a long time in the dusk watching, and, expecting a Tit, I did not pay much attention to a pair of *Chimarrhornis* on the river-bank beside me, till one quietly flew over me, and entering, seated herself on the nest, which contained four incubated eggs. Several other nests found subsequently were all in banks or under stones near the river, and either contained four eggs or young; they are similar to those of *Rhyacornis*, but of course much larger.

50. RHYACORNIS FULIGINOSUS (Vig.).

Fairly common along the Jhelum in April below Baramula, and noticed along the Sind River and its larger tributaries. We found several nests containing three or four eggs; these were mostly among moss on high rocks in the neighbourhood of the river. They breed from early in May till late in June, and the bird seems to rear two broods in the season. We, however, found the nests hard to discover, much harder than those of the very nearly allied *Chimarrhornis*.

51. CYANECULA SUECICA (Linn.).

We noticed this bird towards the end of April about Srinugger. It was then evidently merely passing through on migration.

52. TARSIGER CHRYSÆUS Hodgs.

Mr. Bell saw a single specimen of what must have been this bird on the side of a hill covered with thick scrub on the 28th May above Gund. I examined all the neighbourhood next day, but saw nothing of the bird. Three eggs, however, were brought to us on that day, taken a couple of miles away on similar ground. The description given by the boy could apply to no other bird, and the eggs were pale blue, absolutely similar to one previously sent me from Native Sikhim by the late Otto Möller. The nest was placed on the ground under a rock, and was composed of moss, dead leaves, and a few stems of dried grass, and was lined with goats'-hair: a regular Robin's nest.

53. IANTHIA RUFILATA (Hodgs.).

We found this bird only in the neighbourhood of Sonamurg, from an elevation of about 9000 feet to the highest parts of the wooded hills. The birds were anything but shy, and kept calling and hopping all round whenever we were in the neighbourhood of their nests. Of these we found a good number in the beginning of June, but most contained young. They were placed either among the roots of fallen trees or on slopes so steep that it was difficult to traverse them with a gun in one's hand. The eggs were three, four, or five in number; they varied in colour from pure white without markings to fairly spotted eggs, white marked with pale brown. In one nest, taken on the 10th June in a hole in the root of a fallen tree, we found the egg of a Cuckoo, apparently *Cuculus saturatus*, a bird which constantly kept in the immediate neighbourhood of the nest. In most of the pairs of *Ianthia* we saw both sexes were in the brown plumage, and it was decidedly the exception to find a male in the handsome blue plumage.

54. COPSYCHUS SAULARIS (Linn.).

I saw only two pairs of this bird in Kashmir: one was at Kagan, on the Sind River, on the 20th June, and the other was near Kohala on the 28th.

55. MERULA CASTANEA Gould.

We saw a few pairs of this bird at Gund, and also at Sonamurg. It must be a very early breeder, as we shot young flying on the 28th May. We obtained also several nests with eggs or small young during May and June: one of these was in the face of a rock on a steep hill, and the others were from three to seven feet from the ground on stunted trees; they were composed of dead leaves and grass, lined with mud, and then neatly lined with fine grass-roots. The number of eggs or young was either three or four.

56. MERULA UNICOLOR (Tick.).

A very common bird in the Valley of Kashmir, but not apparently coming up the Sind Valley more than a very few miles. In the Kashmir Valley itself there were pairs in every village and grove of trees. We obtained numbers of nests about Gandarbal in May, and there were fresh eggs in others at Srinugger in the end of June. They were at various heights in large trees or on low bushes, and contained from three to five eggs.

57. Petrophila cinclorhyncha (Vig.).

A fairly common bird both at Gund and at Sonamurg, where we found it at an elevation of quite 10,000 feet. It is a most beautiful songster, the males singing from sunrise. The females are shy. Our first nest was taken at Gund on the 21st May, and contained four fresh eggs; it was placed on the ground under a rock. We obtained a nest at Sonamurg in a similar situation, also with four fresh eggs, on the 8th June, and others as late as the 18th of that month. One taken on the 25th May, with five eggs, was in the top of a pollarded tree, about nine feet from the ground.

58. Petrophila cyanus (Linn.).

Noticed sparingly on the Tukht-i-Suliman at Srinugger, both in April and June. It was evidently breeding there, but was shy, and we were not able to discover any nests.

59. Turdus viscivorus Linn.

Noticed occasionally at Sonamurg. It is an early breeder, as the young were strong fliers in June.

60. Cinclus kashmiriensis Gould.

We saw a single specimen of the White-breasted Dipper near Gangadgir on the 4th May. We never, however, saw any others later on.

61. Cinclus asiaticus Swains.

This Dipper was common everywhere in the Sind Valley above Kagan. We noticed on the 8th May a pair building on an island in the river below Sonamurg; the female collected great lumps of moss, and dived with them to some place under the other bank. When we returned three weeks later, the whole of that side of the island was under water and the Dippers had disappeared; but we saw full-grown young flying at Gund on the 19th May, and a pair, which was doubtless the same, building again under a small waterfall on the 26th.

62. Tharrhaleus jerdoni (Brooks).

We never noticed this bird at any level lower than Sonamurg. It was fairly common there among the snow-clad forests in early May, and in June was generally scattered in all the pine-woods. It is not a shy bird, hopping about on the ground or low down on the fir-trees within a few yards of the onlooker. We took only two nests: the first was on the 11th June; it was on a stunted pollard birch-tree about eight feet up, and was composed of moss, birch-bark, reed-stalks, lined with hair and a few feathers; outwardly it was completely covered with pieces of birch-bark, and as it looked exactly like the adjoining bough, it was very difficult to discover. The second nest was found on the 13th June, and was placed on a horizontal branch of a fir in a thick clump about twelve feet from the ground. There were four blue eggs on each occasion in the nest.

63. Pycnorhamphus icteroides (Vig.).

Noticed daily all the time we were in the Sind Valley at Gund, Gangadgir, and Sonamurg, where it was found in pairs and small flocks scattered through the forests. In June I saw a female with something in her mouth, but could not see whither she flew. I rather doubt this bird having regularly commenced to build by the 16th June when we left Sonamurg.

64. Pyrrhula aurantiaca Gould.

Noticed occasionally at Gund in May, and at Sonamurg in June. At the latter place it became commoner towards the middle of the month, when small flocks appeared. Previously to that we had only seen pairs there. On the 14th June my companion saw a pair building at Sonamurg; the nest was on a horizontal branch of a small fir, about three feet from the ground, and was composed of thin twigs and lined with hair; it was in fairly thick jungle about 9000 feet. We intended to arrange to have the eggs taken, but were unfortunately unable to rediscover the nest.

65. Propasser rhodochrous (Vig.).

This lovely Finch was in pairs at Gund on the 11th May.

It was, however, merely migrating, as after the next day or two we never met with it again.

66. Carpodacus erythrinus (Pall.).

This bird we also saw in pairs at Gund on the 11th May, and occasionally till the end of the month. There were a few pairs at Sonamurg in June undoubtedly intending to breed; and we found two old nests in low bushes on the edge of the thick forest, which we believe to have belonged to this bird. They were of the previous year, and one contained fragments of blue eggs with dark spots. Although the birds we saw in the middle of June were making love, we saw no signs of their having begun to build.

67. Carduelis caniceps Vig.

This lovely little bird was fairly common on the hills round Srinugger in April, and on the 29th there we found on the Tukht-i-Suliman a nest half-built on the horizontal branch of a *Pinus excelsa* at about ten feet from the ground. This nest we had taken on the 8th May; it was a lovely, very solid cup of moss, with a few roots interwoven on the outside, and contained when taken three pale blue eggs, slightly spotted on the larger end with dull red and lilac. We saw a small flock of Goldfinches at Kagan on the 3rd May, but did not see any more till the 16th June, when a small flock appeared at Sonamurg. Coming down the Sind River on the 18th, we saw another small flock at Kulan. As we are sure that there were none there a fortnight earlier, there must be a particular migration, and possibly the birds bred at that high elevation later. We saw a young brood flying at Srinugger on the 23rd June, and a pair near Uri in the Jhelum Valley on the 27th June.

68. Calacanthis burtoni (Gould).

Fairly common in flocks in May in the higher forests round Gund, and in June about Sonamurg in pairs. One shot there in the second week of June would not apparently have laid for three weeks. We saw no signs of nidification.

69. Hypacanthis spinoides (Vig.).

We saw only two pairs of this bird, one near Kulan on the 16th June, and the other on the 20th near Kagan. They were both apparently migrating up the river.

70. PASSER DOMESTICUS (Linn.).

This bird absolutely swarmed along the Jhelum in the Valley of Kashmir, where it was building in the end of April in holes in the banks of the river. When we went up the Sind River in May, we did not see any above Kagan, but subsequently a flock came and settled in a village above Gund. It was common in June everywhere along the Jhelum as far as Kohala.

71. PASSER CINNAMOMEUS (Gould).

Noticed from Kagan as far as Gangadgir very commonly, and there were a few pairs at Sonamurg. Its nests were, so far as we could judge, always in small holes in trees at any height up to twenty feet. We took a good many clutches of eggs at the end of May.

72. FRINGILLAUDA SORDIDA Stol.

On the 5th June an immense flock, consisting of some hundreds of this species, passed through Sonamurg in the early morning of a very wet and misty day. Wanting specimens, I fired at the thinnest portion of the flock, and killed some twenty birds.

73. EMBERIZA FUCATA Pall.

So far as we could judge, this is a scarce species in Kashmir. We saw a few males along the Sind River between Kagan and Kulan. The males have a pretty little song, which they constantly indulged in, seated on the top of a bush. We never saw a female, and, though the birds were certainly breeding, we never saw the sign of a nest. We saw this species only between 6000 and 6500 feet, and only along the river.

74. EMBERIZA STEWARTI Blyth.

A very common bird on all the stony hills round Srinugger, and a few miles up the Sind River from Gandarbal. It was also common along the Jhelum between Baramula and Kohala. We found many nests being built about Srinugger and Gandarbal at the end of April and beginning of May; they were on the ground under bushes. The only clutch of eggs we got was one of three at Srinugger in the beginning of May.

75. Emberiza stracheyi Moore.

Very common above Kagan on the Sind River up to Sonamurg, and as far above it as we went. We found numbers of its nests built on the ground under bushes or rocks, and in the open on all the hills. It was not uncommon in the thicker forests, and one nest we got there was in the low bough of a fir-tree, about nine feet from the ground. The eggs were generally three in number, and in a few cases four.

76. Melophus melanicterus (Gm.).

Common along the Jhelum Valley in April and again in June from Kohala to Baramula, but not noticed by us in the valleys of Kashmir or on the Sind River.

77. Chelidon kashmiriensis (Gould).

A number of White-rumped Martins were noticed by us at Gund on the 24th May, and at Sonamurg on the 6th June and subsequent days. They kept flying very high and we could not get a specimen. They were no doubt breeding on some of the high cliffs on the sides of the hills, but we could not obtain any clue to their nesting-places.

78. Hirundo rustica Linn.

A very abundant bird in the Valley of Kashmir, but not noticed in the Sind Valley. In the end of June a few were seen between Kohala and Baramula. At the end of April they were breeding in great numbers in houses, temples, and under bridges. The nests were similar to those found in Europe, but the eggs seemed more feebly coloured as a rule.

79. Hirundo nepalensis Hodgs.

Common between Kohala and Baramula both in April and June, and breeding on the cliffs above the road and in culverts under it. We never noticed it above Baramula in the Kashmir Valley or further north.

80. Motacilla hodgsoni G. R. Gray.

This Wagtail was common at Srinugger in April; during May and June it was very abundant in the Sind Valley, breeding under large stones on islands in the Sind River. Its nests were large masses of brown sheep's-wool, lined with hair, and the number of eggs was either four or five. Great numbers of the nests of this and the next bird were destroyed by floods, as the river rises many feet after each hot day, owing to the melting of the snow—a fact the bird does not seem to have discovered; and for every nest we found with eggs, at least the wreck of another was discovered. South of Baramula along the Jhelum we could not be sure we saw this bird, though a pair of young seen near Domel looked like it.

81. Motacilla melanope Pall.

This bird we first noticed near Kagan on the Sind River, and it was common from that place to beyond Sonamurg. We found many nests in May and June; most of these were in situations similar to those chosen by *M. hodgsoni,* but two or three were in banks of the river, a foot or two above the water. The nests were, however, smaller, and the wool composing them was in all cases white; there were always four or five eggs.

82. Motacilla citreola Pall.

This bird was very common in the marshes round Srinugger at the end of April, but we never saw it in the Sind Valley, and it had totally disappeared by the time of our return at the end of June. Whether it had bred and departed in the meantime we could not tell, but the boatmen declared that a Yellow Wagtail, probably *M. citreoloides* Hodgs., habitually bred among the willows in the marshes. All the specimens of Yellow Wagtail obtained were, however, *M. citreola,* and not *M. citreoloides*.

83. Anthus similis (Jerd.).

Fairly common on the low hills round Srinugger and Gandarbal both in April and June. In the latter month it had young flying, and we found a new nest which, we believe, belonged to the bird.

84. ANTHUS ROSACEUS Hodgs.

There were large flocks of Pipits travelling up the Sind Valley in the beginning of May; these we believe to have been all or mainly of this species. We saw also a single pair of this bird at Gund on May 17th, one of which I shot, but they would not have bred for some time.

85. ALAUDA ARVENSIS Linn.

The larger form of Lark was very common at Sonamurg, but we did not come upon it anywhere else. In June we took numbers of nests among the longish grass on the Sonamurg plateau, each containing three eggs.

86. ALAUDA GULGULA Frankl.

We saw a few pairs of the smaller Skylark in the end of June along the Jhelum between Shadipur and Baramula.

87. DENDROCOPUS HIMALAYENSIS (Jard. & Selby).

This bird was common along the Sind Valley from about the level of Gund to Sonamurg. We found many nests in May and June, but all of them contained young. They were placed at considerable heights, 25 feet or more, from the ground, and were in both dead and growing trees.

88. DENDROCOPUS AURICEPS (Vig.).

We saw and shot a single specimen of this bird near Sopur, on the Jhelum, in the Valley of Kashmir, on the 23rd April. We never saw the bird again.

89. IYNX TORQUILLA Linn.

A common bird everywhere in Kashmir beyond the Pir Punjal range. It haunts the outskirts of the forests and the gardens round Srinugger and the various villages. We found several nests, but mostly high up in dead trees in dangerous or inaccessible positions, and took only one nest with eggs. This was in the hole of a Woodpecker's former nest in the stem of a walnut-tree, about 7 feet from the ground, and contained on the 24th May seven fresh eggs.

90. Coracias garrula Linn.

The Roller is one of the later migrants, and we saw none in the Valley of Kashmir in April, and only a single specimen at Gund in May. This we shot on the 17th. On our return there on the 18th June we found the bird sparingly distributed, but becoming more common as we descended the Sind River to Gandarbal. We took two nests in holes of trees on the 18th June, each containing four eggs ; one clutch was quite fresh, and the other just being hatched. On the 26th June we found the bird breeding in numbers in holes in the bank of the Jhelum near Baramula, and eight nests found on that date contained incubated eggs or young.

91. Merops apiaster Linn.

This bird was common at Srinugger in the end of April, but seemed to be restricted to the valley, as we did not see it above Gandarbal, on the Sind. The only nests we saw were singly along the hill-side at Gandarbal.

92. Ceryle varia Strickl.

Common along the Jhelum between Baramula and Srinugger, not extending up the Sind River more than a mile or so above Gandarbal. It was building its nest at the end of April.

93. Alcedo ispida Linn.

Very common about Srinugger and along the same parts of the river on which we found *Ceryle varia*. We obtained many nests about Gandarbal in May and June.

94. Upupa epops Linn.

We found the Hoopoe very common in the Valley of Kashmir when we arrived in April. It was then in pairs and continued common everywhere we went, while we even saw a few at about 10,000 feet on the hills above Sonamurg. Its nests were in holes in trees at all heights, and we found one nest among a heap of stones on the ground. The birds breed twice, as we came across small young at Gangadgir (7000 feet) as early as May 4th, and incomplete clutches of fresh eggs were taken as late as June 18th, while none of the numerous pairs we watched seemed to be without a nest. The number of eggs or young was generally seven.

95. Cypselus apus (Linn.).

The Common Swift, or the form separated as *C. pekinensis* Swinh., was very abundant on the high cliffs in the Sind Valley from the mouth of the Wangan Valley at Kagan to above Sonamurg. We shot one as early as the 2nd May. They generally flew, however, round the top of the cliffs out of shot.

96. Cuculus canorus Linn.

We heard this Cuckoo daily during all the time we were in Kashmir, from the tops of the highest hills down to Kohala (2000 feet). Considering its abundance, we were rather surprised to find so few of its eggs ; in fact, we only obtained three : one, normally coloured, on May 31st, in a nest of *Pratincola maura*; another, of a uniform pale blue, on June 16th, in the nest of *Hodgsonius phœnicuroides*; and a third, normally coloured, on June 27th, in a nest of *Pratincola bicolor*. This last was near Garhi, on the Jhelum River.

97. Cuculus saturatus Hodgs.

We only met with this Cuckoo at Sonamurg, and there it was not common. Its habit of constantly uttering its cry, which is like that of the Hoopoe twice repeated, revealed its presence in one or two places. We obtained one egg, which we consider to have belonged to this bird, as one was constantly calling from a tree near, and another rose from the ground somewhere near the nest when we discovered it. The egg, perfectly fresh, was placed in the nest of *Ianthia rufilata*, which also contained four slightly incubated eggs of that bird. It was taken on the 10th June, and was a broad oval, hardly differing in the size of the ends, and of a uniform brownish pink, with a few slightly darker spots.

98. Cuculus poliocephalus Lath.

This very noisy bird was fairly common from Kagan as far as Sonamurg, in the Sind Valley. It is, however, a late arrival, as we did not hear it till the first week of June.

It is, I think, the most vociferous bird in the breeding-season I ever heard, calling as much by night as by day. On the 4th June we discovered a single white egg, faintly spotted, in a Warbler's nest, and wondered what Warbler could lay an egg of this description. On the 7th we again visited the nest and discovered that the Crows had robbed it, but the broken remains of the egg, as well as those of eggs of *Phylloscopus humii*, were in the nest. On the same day, within a hundred yards, we found a nest of *Acanthopneuste occipitalis* in a hole in a tree-stump, which also contained a similar egg. The egg is about twice the size of that of *A. occipitalis*; it is very elongated and pure white, with a few small brown spots. This Cuckoo is very shy, and it was only after hours of work, stalking various individuals, that we obtained a specimen, though through a glass it was easy to watch the bird and identify it.

99. Cacomantis passerinus (Vahl.).

100. Penthoceryx sonnerati (Lath.).

These, our old familiar Kanara friends, we both saw and heard near Garhi, in the Jhelum Valley, on the 27th and 28th June. They were apparently common there, but we never met with them further north.

101. Palæornis schisticeps Hodgs.

This beautiful Parrot was common on the way from Kohala to Baramula along the Jhelum, both in April when we were travelling to Kashmir, and in June when we were returning. We never saw it beyond about seven miles on this side of Baramula.

102. Asio otus (Linn.).

I saw a specimen of this Owl at Sonamurg in May, but did not manage to secure it. I also heard what I believe to have been its note in June at the same place.

103. Syrnium nivicola (Hodgs.).

This Owl was not uncommon at Sonamurg and on the hill above Gund. We were not able to discover any nests, though we saw one of these birds furiously attacking a Crow.

104. Bubo bengalensis (Frankl.).

I do not think this species was at all common in Kashmir. I saw a pair on the bare hills near Gandarbal; also some feathers at the Tukht-i-Suliman, near Srinugger.

105. Pandion haliaëtus (Linn.).

On the 28th April I observed a single Osprey on the Dal Lake at Srinugger.

106. Gyps himalayensis Hume.

Noticed occasionally, sometimes in considerable numbers, in the Sind Valley, and also in the Jhelum Valley between Baramula and Kohala. We did not see any of their breeding-places.

107. Neophron percnopterus (Linn.).

A *Neophron,* presumably this species, was found abundantly along the Jhelum Valley as far north as Baramula. We saw also a pair on the hills close to Srinugger, and another pair at Gund in the Sind Valley. We did not secure a specimen, so cannot be sure to which form they belonged.

108. Gypaëtus barbatus (Linn.).

The Bearded Vulture was not uncommon in the upper portion of the Sind Valley, from about Gund to beyond Sonamurg.

109. Hieraëtus pennatus (Gmel.).

We noticed this bird once or twice at Kagan, and saw specimens both in the brown- and white-breasted plumage. We saw also a pair towards the end of June on the Tukht-i-Suliman, near Srinugger.

110. Haliaëtus leucoryphus (Pall.).

This was common everywhere in the Valley of Kashmir along the Jhelum, the mouth of the Sind River, and on the banks of the lake. It did not appear to follow the Sind River any distance into the hills. A pair bred yearly in an immense tree near Gandarbal.

111. Milvus melanotis Temm. & Schleg.

Kites were very common along the Jhelum in the Valley of Kashmir, and were breeding when we arrived in April.

On the 24th of that month we took two nests in low trees along the Jhelum and shot one bird, which proved to be a male of the larger species. We once or twice saw a single Kite in the Sind Valley; they, however, looked small, and did not seem to possess the huge white wing-patch so apparent on the larger Valley Kite: they may have been *M. govinda.*

112. CIRCUS ÆRUGINOSUS (Linn.).

This was the only Harrier we saw in Kashmir; we found a few specimens in the neighbourhood of the marshes in the valley in April, but did not see it elsewhere or later.

113. BUTEO FEROX (Gm.).

A Buzzard, which, from a close examination through a glass, we identified as of this species, was seen occasionally in the hills both at Gund and Sonamurg. It was evidently breeding, and continually uttered its long wailing cry. We unluckily did not shoot a specimen, as we always expected to find a nest.

114. ACCIPITER NISUS (Linn.).

We noticed this bird occasionally in the high hills of the Sind Valley and shot a very dark male at Sonamurg on the 7th June.

115. FALCO PEREGRINUS Tunst.

We noticed this bird only twice: once near the Woolar Lake in April, and again on the evening of the 6th May at Sonamurg.

116. FALCO SUBBUTEO Linn.

We saw a Hobby, probably of this species, on the 20th and 21st June at Kagan, near the foot of the Sind Valley. We, however, unfortunately had not a gun in our hands when it flew close over our heads.

117. TINNUNCULUS ALAUDARIUS (Gm.).

The Kestrel was common in the Sind Valley, and was noticed also on the Tukht-i-Suliman. It was breeding on several of the inaccessible cliffs in the Sind Valley.

118. Alsocomus hodgsoni (Vig.).

Noticed once or twice in the hill-forests between Gund and Gangadgir in May and June. We did not succeed in finding a nest.

119. Columba intermedia Strickl.

We saw a few specimens of this Pigeon in the Jhelum Valley between Kohala and Garhi. We did not notice any in the valley itself or further north.

120. Columba leuconota Vig.

This beautiful Pigeon was very common in the beginning of May on the Sonamurg plateau, and occasionally among the cultivation along the Sind River as far down as Kulan. It was then in small flocks. During June we saw it occasionally at Sonamurg, singly or in very small flocks. It seemed generally to fly to and from a ridge of rocks not far from the nullah joining the Sind River, close to the village of Sonamurg. We intended to visit these rocks, but never were able to find time.

121. Turtur ferrago (Eversm.).

A very common bird along the whole Sind Valley. It seems a late breeder, as, though we observed one nest with young early in May, we found no others till the end of June, when we discovered several with fresh eggs. They were in various positions in low thick undergrowth, on the branches of fir-trees, and on garden-trees near villages.

122. Turtur douraca Hodgs.

In the early part of May we noticed some of these Doves as far up the Sind Valley as Sonamurg, and saw a single bird there on the 15th June; the species was, however, very common about Srinugger, and along the Jhelum south of Baramula, in June, while we took eggs at Srinugger in that month.

123. Lophophorus impeyanus (Lath.).

A few of this species were found on the south side of the Sind River, at Gangadgir.

124. Pucrasia macrolopha (Less.).

The Koklass was not uncommon in the forest above Gund; we saw it several times, and heard it crowing almost daily there in May.

125. Caccabis chukar (J. E. Gray).

This bird was very common on the hills round Srinugger, and about the mouth of the Sind Valley at Gandarbal.

126. Coturnix communis Bonn.

We saw a good many Quails while walking along the banks of the Jhelum between Sopur and Srinugger in April. We did not see or hear them later, so think that they merely passed through on migration.

127. Ægialitis dubia (Scop.).

This bird was common about Gandarbal on the flat banks of the Sind River there. It had small young, unable to fly, at the end of June.

128. Lobivanellus indicus (Bodd.).

This bird we did not notice in May, but it was common along the Sind River from its mouth as far as Kagan.

129. Scolopax rusticula (Linn.).

We found the Woodcock by no means uncommon in the wooded hills from Kagan to Gangadgir, though we saw none further up at Sonamurg. On the 24th and 25th May we obtained two clutches of its eggs, consisting of four slightly incubated and three fresh eggs, and on the 28th May I found a pair with small young ones, and distinctly saw one of the old birds carrying a young one between its feet or legs. It flew only some 50 yards, but though I followed at once, I not only failed to find the young bird, but could not even put up the old one again, and on returning could not find a young one that I had previously noticed on the ground.

130. Gallinago cœlestis (Frenzel).

We saw three Snipe near the Woolar Lake in April on our way to Srinugger.

131. Rhynchæa bengalensis (Linn.).

Noticed on two or three occasions in the marshes about Gandarbal in June. There we took two nests in the end of that month with one and four fresh eggs respectively.

132. Totanus ochropus (Linn.).

On the 5th May we saw three Green Sandpipers at Sonamurg, no doubt on migration.

133. Tringoïdes hypoleucus (Linn.).

We saw the Common Sandpiper occasionally along the Jhelum in April, and all along the Sind River in May and June. It was breeding on the banks of the Sind River, and we obtained two nests, each with four eggs, on the 8th and 20th June, at Sonamurg and Gund respectively.

134. Totanus canescens (Gm.).

We noticed a good many Greenshanks on the Woolar Lake in April, and our boatmen stalked a flock and shot several. In India they are generally singly or in pairs.

135. Himantopus candidus (Bonn.).

We saw a small flock of Stilts on the banks of the Jhelum in the Kashmir Valley in April.

136. Hydrophasianus chirurgus (Scop.).

This bird breeds in enormous numbers on the Woolar and other lakes in Kashmir. We obtained numbers of eggs on the 25th and 26th June on the floating weeds in the marshes adjoining the Woolar Lake.

137. Fulica atra Linn.

Very common on the Woolar Lake and adjacent marshes, both in April and June.

138. Gallinula chloropus (Linn.).

Very common in all the Kashmir marshes, breeding in May and June. The largest number of eggs we found in any nest was nine.

139. Porzana fusca (Linn.).

Common in the marshes about Gandarbal and in the rice-fields along the Sind River as far as Gund. We took three of its nests, with five, four, and a single egg, at that place on the 21st and 22nd June.

140. Ardea cinerea Linn.

Common in the valley, where it is strictly preserved. We saw some of its empty nests on willows in one of the lakes.

141. Ardetta minuta (Linn.).

Very common on the Dal Lake and in the marshes round Gandarbal at the end of June. It was then breeding, and in a couple of mornings we took some 20 of its nests. They were in patches of rushes and other weeds, and were very slight structures; the greatest number of eggs in a nest was six. The female is very tame, and several times allowed herself to be caught on her nest.

142. Nycticorax griseus (Linn.).

We saw a pair of Night-Herons at Srinugger on the 27th April.

143. Spatula clypeata (Linn.).

We saw many Shovellers on the Woolar Lake in April, and again on the 21st June we saw three on a marsh at Gandarbal. On the 27th June our boatmen shot one on the Woolar Lake, but it was much out of condition, and may have been a wounded bird. I think, however, that finding three together so late in June makes it probable that some must remain and breed in Kashmir.

144. Anas boscas Linn.

Noticed on the Woolar Lake in April and again in June. We found what was probably a nest of this bird at Gandarbal. It contained a rotten egg and the remains of others, but had been submerged by a rise in the water.

145. Chaulelasmus streperus (Linn.).
146. Querquedula crecca (Linn.).
147. Querquedula circia (Linn.).

We saw small flocks of these three Ducks along the Jhelum and on the Woolar Lake in April.

148. Nyroca ferruginea (Gm.).

This is the commonest Duck in Kashmir. We saw numbers in April, and they seemed equally common in June. We took one nest at Gandarbal, in a marsh. It was a large structure, composed of dried reeds and down, and contained six partially-incubated eggs. Other eggs were brought to us, some as early as May.

149. Tachybaptes fluviatilis (Tunst.).

The Little Grebe breeds abundantly on all the marshes and lakes in the Kashmir Valley. We obtained many nests on the 25th June; the largest number of eggs in any nest was seven.

150. Larus ridibundus Linn.

We saw a number of Gulls on the Dal Lake on the 28th April. They were too wild for us to obtain a specimen, and as they were not in breeding-plumage we cannot be certain, but they seemed to be of this species.

151. Hydrochelidon hybrida (Pall.).

We found this Tern breeding in large numbers on most of the marshes. We obtained many eggs on the 25th June, mostly fresh, but some incubated; they were laid on floating weeds.

II.—*A List of the Birds of the Island of Rotumah.*

By H. Gadow, M.A., Ph.D., F.R.S.

Mr. J. Stanley Gardiner, B.A., Caius College, Cambridge, a member of the Coral-boring expedition to Funafuti, went afterwards in H.M.S. 'Penguin' to Rotumah, a small island 300 miles north of the Fiji group, where he spent three months, from September to December 1896. He collected there examples of the following birds, which, preserved in spirits, he has presented to the Cambridge Museum of Zoology. The field-notes have been copied from Mr. Gardiner's diary.

I am indebted to Dr. R. B. Sharpe for naming the specimens of *Aplonis tabuensis* and *Ptilopus porphyraceus*, as

I was not able to determine them satisfactorily from the descriptions and keys as given in the 'Catalogue of Birds.'

1. Myzomela chermesina Gray.

Four adults, one nestling. Native name "Arumea."

This species occurs also on the New Hebrides, while its nearest ally seems to be *M. rosenbergi* of New Guinea.

It breeds in Rotumah in October and November, placing its nest in any fork formed by the twigs of the hifo tree (*Calophyllum inophyllum*). The nest is made of grass and rather deep. The eggs, numbering from three to five, are white, with a few red spots, very large for the size of the bird.

2. Pinarolestes (Myiolestes) vitiensis Hartl.

Four adults. "Fa-aire."

This species shows distinctly Fijian influence; the genus ranges from this group to New Guinea.

3. Aplonis tabuensis (Gm.).

Five adult, one nestling. "Husela."

The eggs are blue, rather smaller than those of an English Thrush, with light brown spots and splashes.

4. Lalage pacifica (Gm.).

Four adults, one young. "Jea" or "Chea."

The nest is very similar to that of the *Myzomela*, but the eggs are never more than three in number, according to native accounts. This species occurs also at Fiji, Tongatabu, and Samoa.

5. Astur cruentus (Gm.).

Astur rufitorques Peale = *Accipiter rufitorques* Hombr. et Jacq.

This bird, called "Jerleva," has been repeatedly seen in Rotumah, but was not obtained by Mr. Gardiner. It is known also from the Fiji group.

6. Strix flammea Linn.

Two adults. "Ruru."

7. Ptilopus porphyraceus (Forst.).

Two smaller and two larger adult specimens. Called "Ku-ku," from its note *cu-cu-cu,* &c.

8. Charadrius fulvus Gm.

One adult in winter plumage. "Juli."

9. Totanus incanus (Gm.).

One nearly adult. "Juli."

10. Rallus (Hypotænidia) philippensis Gm.

Two adults. "Vea."

These birds have very slight traces of the ochraceous pectoral band: in agreement with Fijian and Philippine, and in opposition to Australian specimens. They were shot nearly on the top of a hill. The nest, November 3rd, was between two buttresses at the root of a tree. It was composed of bits of sticks and old leaves, with a depression of from three to four inches, in which were four eggs resembling in every particular those of the Landrail (*Crex pratensis*).

11. Porphyrio smaragdinus, Temm.

Two adults. "Kale."

12. Anous leucocapillus Gould.

One immature. "Lagea."

At Funafuti these birds nest in great numbers on one island to leeward, and on another island to the south of the large one. Their nests absolutely cover the trees, a species of *Hibiscus,* and are placed on every branch where a twig comes off. On one tree alone I counted ninety-three nests, and on several others there were quite as many. They consist of leaves with a few twigs, are two inches thick and about seven inches across, the whole plentifully covered with fæces, remains of fish, &c. The breeding-season continues through June and July. Never more than one egg is laid, which at first is white, blotched at the larger end with blood-colour. Later on the egg gets browner and the spots become more blackish. The young birds are hatched with a covering of slate-coloured down, and have from the first a trace of the white crown. The note of the adult is similar to, but harsher than, that of the larger species.

13. Anous stolidus (Linn.).

One immature. "Nogo."

In Funafuti the nest is usually placed at the summit of a pandanus branch, completely surrounded by the broad, lanceolate leaves. The nest is made of pieces of coconut and pandanus leaves, twigs, &c., and is usually from six to ten inches thick, by ten inches across. In the centre is a slight depression for the single egg. The breeding-season is from the middle of May to the end of June. The young seem to be fed principally on sea-molluscs, as plentiful pieces of shell are to be found round and on the nests containing young. The note of the parents is a sort of "*cor-r-r-r.*" This is made use of by the natives to lure the bird at night from the top of a tree; they catch it as it swoops down. A party of five or six natives will thus often catch a hundred birds in a night on one of the uninhabited islands to leeward.

These thirteen species of birds are all which Mr. Gardiner has obtained or observed at Rotumah, and he thinks the list is complete so far as native land-birds are concerned. It is interesting to note that the majority of the land-birds occur also on the Fijian islands, e. g. *Ptilopus*, *Pinarolestes*, and *Astur*. The species of *Aplonis* and *Lalage* point still further south, to Tonga. The *Porphyrio* and *Rallus* both have a wide distribution, while the little *Myzomela* occurs also on the New Hebrides and on Ponapé, in the Carolines. It is significant that but one of the species of Rotumah, namely *Lalage pacifica*, occurs in the Samoan Islands.

I append a list of the species of which specimens were obtained at Funafuti, in the Ellice group:—*Totanus incanus*, *Numenius tahitensis*, *Charadrius fulvus*, *Strepsilas interpres*, *Limosa uropygialis*, *Anous stolidus*, *A. leucocapillus*, *Gygis candida*, and *Demiegretta sacra*. The following species was observed, but not obtained:—*Carpophaga pistrinaria*. This is the only typical and native land-bird at

Funafuti, where it is not common, being found only in the south-western corner of the island.

Lastly, while at Fiji, Mr. Gardiner had the good luck to shoot a specimen of the rare *Leptornis viridis*, and has brought it home well preserved in spirit. He observed three of these birds at Taviani in a crater-like depression, 2200 feet above the sea-level, surrounded by swamp overgrown with trees. He distinctly denies the correctness of Liardet's report that these birds "creep" on trees (*cf.* Layard, P. Z. S. 1875, p. 432).

P.S.—I take this opportunity of respectfully answering the following remark of Count Salvadori, which I have recently noticed in Cat. Birds, vol. xxvii. p. 495, anent Crypturi:—"Dr. Gadow defines the Tinamiformes . . . . and places them between the Falconiformes (!) and the Galliformes." The fact is, I do no such thing. Both groups not only belong to different "Regions," but even to different "Brigades" of my System. How would the justly-renowned Italian authority relish the analogous statement that he "places the Crypturi between the Chenomorphæ (!) and the Ratitæ," or "near the Goosanders"?—H. G.

III.—*On the Terrestrial Attitudes of Loons and Grebes.*

By Dr. R. W. Shufeldt, C.M.Z.S.*

My attention has recently been invited by Mr. H. H. Brimley, the Curator of the State Museum of Raleigh, North Carolina, to an interesting question in regard to the normal attitudes assumed by the Loons and Grebes (*Pygopodes*) when removed from their natural element, the water, and placed upon dry land or elsewhere, and to the mode of locomotion of these birds when on shore.

In a letter to the present writer, Mr. Brimley says:—"The snowstorm of three weeks ago brought an unprecedented influx of Loons into this locality, several of which came into my hands. One I had alive for a short time, and

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* On this subject see Bull. B. O. C. vi. p. xxiv.

I studied it for attitudes; but, do all I would, it absolutely refused to sit upright, or to assume anything approaching the 'book' attitude attributed to Loons and Grebes. Its method of progression was by little jumps, both feet being moved backward together, the breast never leaving the ground. When at rest the body lay flat on the breast-bone, and the bird seemed to have no idea of any other attitude when on shore. I questioned, also, a man who had handled another captive, and his specimen acted in the same way.

"Now, I am unfamiliar with either Loons or Grebes on land, and what I want to know is—Is the common upright attitude given to these birds, both in pictures and mounted specimens, incorrect and not assumed by them in life? I have always used the upright attitude in mounting (excepting for the one that would not assume it), and I would like to know the facts in the matter, which I have no doubt you can give me."

In my answer to this, I stated that, so far as my own observations were concerned, they agreed with what my correspondent had noticed, and so well described in the above letter. In my opinion it is the rare exception for either a Loon or a Grebe, when out of the water and on *terra firma*, to assume the erect attitude, as is the habit in the case of the Penguins and the Auks. That they may do so momentarily, upon certain occasions, there can hardly be any question, and especially at such times when they desire to agitate their plumage after a general preening, as we frequently see Ducks and other wildfowl do; but that when on land they habitually stand erect, I believe to be erroneous. Suggestion was made to Mr. Brimley that he should take photographs of his specimens of living Loons under as natural conditions as possible, and particularly when the birds thought themselves unnoticed and were in their normal positions of rest. An opportunity is offered here to add facts of interest to a question that, to my knowledge, has never yet been satisfactorily settled by ornithologists.

Audubon, who was altogether too prone to figure his birds in extravagant attitudes, often represented the Loons and

Grebes he drew upon shore, and in doing so gave them both the erect attitudes, as well as, what may be termed, the ventropodal ones. His figures have been very extensively copied, and are doubtless largely responsible for the "book" attitudes, to which Mr. Brimley refers. On the other hand, Wilson, who portrayed his subjects more in keeping with the demands of strict ornithological science, figured his Great Northern Diver in the act of swimming, and this figure fortunately has been very extensively reproduced by Coues and other popular ornithologists. A typical example of figuring a Grebe in a thoroughly erect pose may be seen in the case of the Great Crested Grebe (*Podiceps cristatus*) that illustrates the article "Grebe" in Professor Newton's 'Dictionary of Birds,' and another, in the case of the "Loon," in Michelet's work 'L'Oiseau.' The female bird, however, in the latter has the ventropodal attitude. And so it goes all through the literature of the Class, and has been even carried into the osteology of long-extinct pygopodous birds, for Marsh, in his restoration of the *Hesperornis*, makes the skeleton of that ancestral type of Divers stand up as erect as any Dabchick that illustrates works on popular zoology for our public schools. When Loons and Grebes go on shore it is rarely for any other purpose than to breed, and they never leave the water's edge but for very short distances—usually less than fifty feet. In our western rivers, the Great Northern Diver is frequently seen to pass out of the water on to the sand-bars, where he will stretch himself out in the ventropodal position to enjoy the warm sun and the complete rest from aqueous locomotion. At these times they are never seen to assume the erect attitude, except when they raise up in that position to vigorously fan with their wings for an instant or two. This attitude is beautifully represented in the case of the male Black-throated Diver in the group exhibited in the South Kensington Museum, and so accurately figured in Dr. Sharpe's excellent article in 'The English Illustrated Magazine' for December 1887 (p. 170), on "Ornithology at South Kensington." That is a most life-like group, and represents both the specimens in it in normal postures, and the ones commonly assumed by not only this species, but all the true *Pygopodes.*

If it be true that these birds do not habitually assume the erect attitude on solid ground, then it would be a nice problem to discover the exact reason why they can not, and the Auks and Penguins can, and by nature do. Certain conformations of particular parts of the skeleton, and the action and arrangement of certain muscles and tendons, with all bearing upon the question of the general adaptation to sustain the proper equilibrium when erect, would be factors to be considered here.

Passing from drawings to descriptions, it is to be noted that Audubon states that both Loons and Grebes have the power of running, walking, and standing erect. A Great Northern Diver, when wounded, rapidly made off by running in nearly an upright attitude; while the Horned Grebe, when on the ground, "is not better off than the Dabchick, it being obliged to stand nearly erect, the hind part of the body resting, and the tarsi and toes extended laterally." He figures the male of this species about in this attitude; and I have mounted the same bird so, although I have never seen them thus stand in nature.

According to Professor Newton, "when young Grebes are taken from the nest and placed on dry ground, it is curious to observe the way in which they progress—using the wings almost as fore-feet, and suggesting the notion that they must be quadrupeds instead of birds" (Ibis, 1889, p. 577).

I have always noticed the old ones to behave in this manner when placed upon the ground. The late Professor J. W. P. Jenks, of Brown University, a very close observer of the habits of birds for half a century, says of the Loon that it is "unable to move on land, except by a constant succession of awkward tumbles," or in the attitude that Audubon has figured the male of the Eared Grebe in the act of walking upon the land, or his female of the Horned Grebe. The latter he represents in the ventropodal posture, although in the descriptive text he says that this species, when on land, is "obliged to stand nearly erect." Consistency in ornithology, as everywhere else, is a priceless jewel.

I find little or nothing about the behaviour on land of either Loons or Grebes in the very elaborate Reports upon the ornithology of the United States published at various times under the auspices of the Government by Henshaw, Nelson, Turner, Coues, and others. Practically there is nothing. However, in one instance, Mr. Nelson describes the mode of progression of the Black-throated Loon (*Urinator arcticus*), and he says: "On one occasion I came suddenly upon one of these birds in a small pool, and the bird, seeming to appreciate the uselessness of trying to dive, tried to take wing, but fell upon the grass only a few feet from the water. Hoping to capture the bird alive, I pursued it at full speed as it progressed toward a neighbouring pond. The bird advanced by raising the fore part of the body by pressing downward with the wing-tips, and at the same time, by an impetus of wings and legs, threw the body forward in a series of leaps. In spite of my efforts, the bird distanced me in a race of about 30 or 40 yards, and launched into a larger pond" *. I have had several experiences of this kind with both Grebes and Loons, and in every instance the birds behaved in the same manner as in the chase just described so well by Mr. Nelson. It also agrees with the observations given above by Mr. Brimley in his letter; and another trustworthy authority at my hand says of the Red-throated Diver, "their legs are placed so far behind that they cannot walk upon them; still they shove themselves along on the ground by jerks, rubbing the breast on the ground. They make a regular path from the water to their nests."

I have seen in their natural haunts a great many Loons and Grebes during my lifetime, but have yet to live to see them habitually stand erect on the shore, as Penguins, and Auks, and Cormorants are well known to do. Perhaps other field-naturalists have been more fortunate; but surely, in face of the almost complete absence from ornithological literature of the accounts of the behaviour of these birds on land, the observations of these others will hardly come amiss.

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* 'Report on the Natural-History Collections made in Alaska between the years 1877 and 1881,' p. 37.

IV.—*On some Birds and Eggs lately collected at Cape York, Queensland, by Mr. H. G. Barnard.* By D. Le Souëf, Melbourne.

(Plate I.)

1. Talegallus purpureicollis sp. nov. Cape York. (Barnard's Talegallus.)

This species is found in the Cape York Peninsula. Mr. K. Broadbent observed it during his extended visit there some years ago. Mr. Jardine, of Somerset, Cape York, and Mr. H. G. Barnard have lately noticed the variation between it and the southern form, and the latter has kindly sent me some skins. The principal difference between the two birds is in the coloration of the lower portion of the neck and wattles, which in *Talegallus purpureicollis* (the name by which I propose to call it) is of a purplish white, and in *Talegallus lathami* red, with yellow wattles. Otherwise the birds are very similar: but, as Mr. H. G. Barnard says, "anyone who has seen the bird in life will at once observe the difference." The bright colours soon fade on the death of the bird, and the difference is not then so noticeable, although it can still be observed. During the breeding-season, from October until January, the wattle of the male is 1½ inch in length, hanging from the lower portion of the neck. When the breeding-season is over the wattle shrinks and disappears; it is then more difficult to tell the male from the female when seen in the scrub.

The total length of the adult male is 29 inches, wing 16 inches, and leg 11 inches. Its head and upper portion of the neck red, lower portion of the neck, with wattles, whitish purple; eyes very light brown, almost white; bill black; feet and legs dark brown; the upper surface is blackish brown, the tail being almost black; the feathers of the under surface are also blackish brown, tipped with light grey.

The female is slightly smaller than the male; the coloration of the head and neck is not so bright, and she has no wattle, otherwise she is similar.

The eggs of this bird are oval in shape and smaller at one end; they are pure white and finely granulated. One obtained at Somerset by Mr. Barnard on Nov. 3rd, 1896, measures 3·61 × 2·36 inches.

I propose that this new species should be known in the vernacular lists as Barnard's Talegallus, after Mr. H. Greensill Barnard, one of the most reliable and observant collectors in Australia, whose name, like that of his brother, Charles Barnard, is a household word among Australian naturalists.

2. CALORNIS METALLICA Temm. (Shining Calornis.)

These beautiful birds are very plentiful on the north-east coast, and build their bulky hanging nests on the tallest trees they can find, in scrub, forest-country, or mangroves. The tall trees they choose in the scrub are generally almost bare of leaves, and in the forest-country they prefer the locally-called "Moreton-Bay" eucalyptus. Their general habits are very similar to those of the European Starling. They live in flocks of varying numbers and are often seen feeding on the ground; they fly with great rapidity and seem always in a hurry. The way they dart in and out of the thick scrub without coming in contact with the branches is wonderful. When a large colony are nesting on one tree the chatter they make is considerable, and they look like a hive of bees round the top of the tall trees. They evidently feed largely on the fruit of the native nutmeg, as the ground under the trees on which they nest is generally covered thickly with these seeds. The thin branches from which their nests are suspended occasionally break with the extra weight of the nests and fall to the ground. The same trees are used year after year. Mr. H. G. Barnard climbed up one large tree at Somerset, Cape York, and counted 296 nests on it. He said that the noise made by the birds when he was up the tree was something to be remembered. The nests vary in size and are nearly circular; they measure 7 inches in diameter, and the nesting-chamber 4½ inches; they are composed principally of dark-coloured curly vine-tendrils, with a lining of finer light-coloured fibres from the palm-trees.

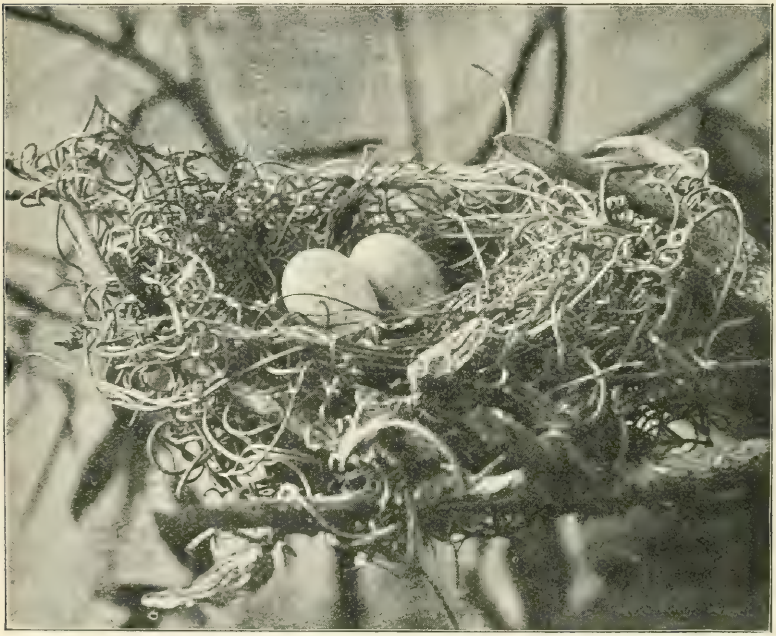
These birds lay from two to three eggs, as many nests having two as those which have three. The clutches vary both in size and coloration, many of the larger eggs especially being well marked on the larger end with dark brown and lilac spots, in many cases confluent and forming an irregular zone. Others have smaller markings of a greyish-brown colour interspersed with lilac markings, but they are more evenly scattered over the surface. Then, again, many of the clutches have no markings, but these are mostly the smaller eggs and are probably those of the younger birds. The ground-colour is greenish white. Some of the eggs are more elongated than others. The following are the measurements of two clutches:—(1) A 1·16 × ·80, B 1·10 × ·79, C 1·12 × ·78; (2) A 1·8 × ·70, B 1·6 × ·71 inch.

3. MYIAGRA LATIROSTRIS (Gould). (Broad-billed Flycatcher.)

The nest and eggs of this bird were found by Mr. H. G. Barnard at Somerset, Cape York, on December 20th, 1896. He states that the nest was built in a mangrove-tree overhanging a deep stream, and that he had to push the eggs into his handkerchief at the end of a long stick. While he was trying to secure the nest it fell into the water and was carried away by the current. It was very similar to the nest of *M. concinna*, but larger, being about the size of that of *Seisura inquieta*. Later on two more nests were found, but they both contained two young ones. Mr. Barnard met with this bird only in the mangroves, and not in the open forest-country. The ground-colour of the eggs is a dull white, but one of the set sent is a shade darker than the other. The markings are mostly elongated, some greyish brown and others lilac, the latter appearing as if beneath the surface of the shell; they are principally on the larger end, forming a zone, and on one of the eggs there are scarcely any markings anywhere else, but on the other the markings are more scattered over the surface. They measure:—A ·78 × ·54, B ·71 × ·52 inch.

4. MANUCODIA GOULDI (Gray). (Gould's Manucode.)

Mr. H. G. Barnard found the nest and two eggs of this species on January 23rd, 1897, near Somerset; he states that the birds were not numerous and that they were generally in pairs. He shot a female in the beginning of December that had laid an egg a short time previously, but though he hunted about for some time he could not find the nest. The birds were remarkably shy, and it was impossible to get near enough in the scrub to watch them. It is probable that the egg of this bird will always be a rarity, as the nests are



Nest and Eggs of *Manucodia gouldi*.
(From a photograph.)

hard to find; they are very similar to those of the Drongo Shrike (*Chibia bracteata*), and the eggs are also somewhat alike. The nest is a shallow, open structure, and is made of curly vine-tendrils, the inside being lined with the same material, only finer, and on the branch on which the nest was built, and in conjunction with it, an orchid was growing, a portion of which the bird had worked into the outside of its nest. It was built on a horizontal fork of a tall scrub-tree growing in forest-country, about 20 yards from dense scrub; the height of the nest from the ground was about 48 feet. Its external diameter is 6 inches, internal 4 inches, external depth 3½ inches, internal 1¾ inch. The ground-colour of the two eggs varies, in one case being dull white and in the other of a reddish hue. The eggs are thickly marked all over with longitudinal streaks in varying shades of brown, many appearing as if beneath the surface, they being of a lilac colour; the markings or stripes are most numerous on the larger end. They measure:—A 1·40 × 1·6, B 1·41 × 1·4 inch.

5. TANYSIPTERA SYLVIA (Gould). (White-tailed Kingfisher.)

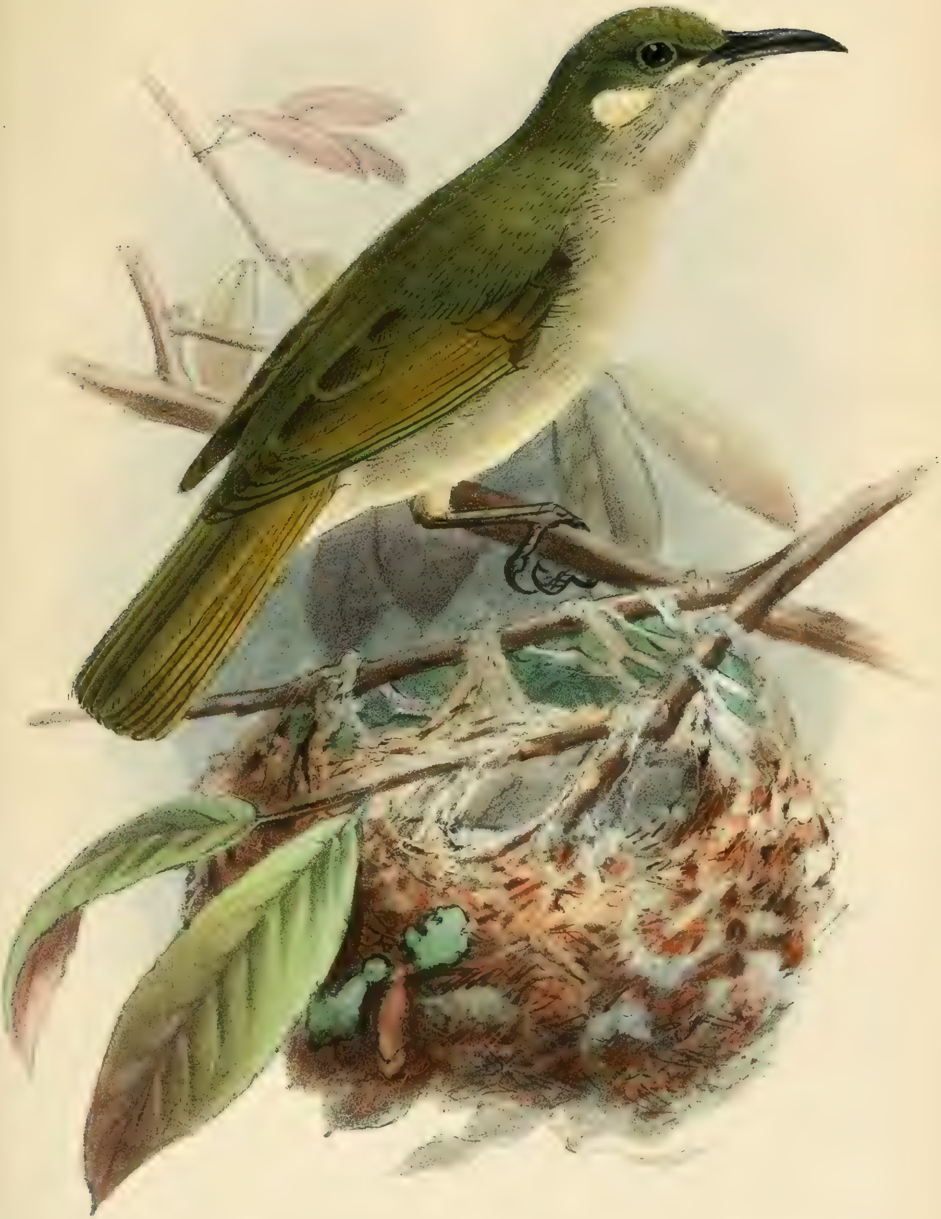
These beautiful Kingfishers breed on the north-east coast as far south as Cairns, and probably further. Mr. Barnard found them nesting in termites' mounds, both in those situated on the trees and also in those on the ground; some of the nests he took were 30 feet from the ground. They seem to have a certain day to start laying, as he opened ten nests on one day and found them all empty, but five days later he opened twelve nests and found three fresh eggs in each. Both Mr. R. Hislop and I myself have noticed the same thing. The birds burrow a hole in a termites' mound, either on the ground or in a tree, but much more often the former. Shortly after the young birds leave the nest the termites fill in the hole made by the parent Kingfisher. The eggs vary considerably in size; some are slightly pointed at one end, and others are not. One of the sets taken by Mr. Barnard at Somerset on Dec. 17th, 1896, measure:—A ·98 × ·88, B 1·2 × ·87, C 1·5 × ·85 inch.

6. Microglossus aterrimus (Gm.). (Great Palm Cockatoo.)

The egg of this bird has been previously described from New Guinea, but Mr. Barnard has noticed its nesting-habits, which are well worth recording, though he was not fortunate enough to secure the eggs. These birds nest in the forest-country, and having chosen a hollow in a tree they, with their powerful beaks, break off green twigs about the thickness of a man's finger and carry them into the hole, having first removed all the leaves from the twigs. They then bite them into small pieces from two to three inches in length and strew them thickly over the bottom of the hole. One nest to which he climbed up in a large dead bloodwood stump, fully 200 yards from the nearest scrub, had the bottom of the hole covered to a depth of four inches with twigs of scrub-trees. No leaves are put in; the holes themselves are generally two feet in depth. The apparent reason for the twigs being in the hole is that the birds breed from November to March—that is, during the rainy season, and as the holes for their nests are always chosen in upright trunks, the sticks would keep their single white egg or young off the wet rotten débris at the bottom of the hole. An egg of this bird in the collection of Mr. G. A. Keartland was taken at Cape York in February 1897; it is dull white in colour, and the surface slightly rough, in shape a swollen oval, slightly pointed at one end, and measures 2·12 × 1·55 inch.

7. Ptilotis gracilis Gould. (Plate I.) (Graceful Honey-eater.)

This active little bird is found on the north-east coast from Cape York to Cardwell, and probably further. Specimens were secured at Somerset by Mr. Barnard, and in the Bloomfield River district by Mr. Hislop and myself. They seem nowhere very plentiful, and are often found in the open country and in the edges of the scrub. They build their nests among the leaves near the end of a branch of some thickly-foliaged tree, generally some 20 feet or more from the ground.



J. G. Keulemans del et lith.

Mintern Bros imp.

PTILOTIS GRACILIS.

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This bird (Plate I.) has been considered by several ornithologists as being the same as *Ptilotis notata* Gould; but both Mr. A. J. Campbell and I myself have gone carefully into this subject and consider that Gould's original description of the two species as being distinct holds good, especially from an oological point of view, although both birds are found in the same locality*. *P. gracilis* is considerably smaller than *P. notata* and has a proportionately longer bill. Their note, habits, nest, and eggs are all different, and you get no intermediate links between the two birds. Both have been shot off their nests on several occasions by Mr. Barnard at Cape York, and by Mr. Hislop and myself in the Bloomfield River district.

The nest is cup-shaped; the upper portion is composed of green moss and shreds of bark, and the lower portion principally of flat pieces of paper-bark and moss. It is well covered externally with cobwebs; the inside is beautifully and plentifully lined with the glossy white down from the native cotton-plant. Its external diameter is 2½ inches, internal 1¾ inch; external depth 2½ inches, internal 1½ inch. The clutch is of two eggs, and their ground-colour is a rich terra-cotta, varying in intensity and being much darker on the larger end. There are a few dark-brown markings, especially on the larger end; but these vary in different clutches, as in some they are large and of a deeper shade and form an irregular zone round the larger end, and in others the spots are much smaller and more scattered. A set I took in the Bloomfield River district on Nov. 23rd, 1896, measure: A ·79 × ·50, B ·78 × ·54 inch; and another set, taken by Mr. H. G. Barnard at Somerset, measure: A ·76 × ·48, B ·77 × ·51 inch.

Since writing these remarks I have received a letter from

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* [We quite agree with the author that this *Ptilotis* is distinguishable from *P. notata*, and have great pleasure in giving figures of the bird and its nest from Mr. Le Souëf's specimens. Dr. Gadow (Cat. B. ix. p. 227) has united both species to *P. analoga* of New Guinea, and it is possible that the larger *P. notata* may be barely separable from that form, but the group requires careful revision.—Edd.]

Mr. Barnard on the subject, in which he states :—"There can be no mistake about the two Honey-eaters being different, as I shot both kinds from the nests. Both the nests and the eggs are different, and also the birds have a totally different note."

8. Ptilotis notata Gould. (Yellow-spotted Honey-eater.)

This species is very plentiful on the north-east coast, and is probably the most familiar bird in the scrubs, and certainly the most in evidence, as they are very fearless and may often be seen basking in the clear pools of water, of which habit they seem very fond, or dashing one after another among the thickly-growing timber, uttering their loud note as they go, which on such occasions is different from the note they usually utter. They seem to be found most frequently in the scrubs, and rarely in the open forest-country. They often build their nests very low down ; one I noticed, with two eggs in it, was suspended to a palm-leaf at the side of the road, and was only six inches from the ground. Two seems to be the general number of the clutch.

The somewhat loosely-built nests are composed principally of shreds of a coarse grass, with pieces of paper-bark, and are lightly covered externally with cobwebs. The interior is lined with the glossy white down from the native cotton-pod ; their diameter is 3½ inches by 3 inches in depth, internal diameter 2½ inches by 2 inches in depth. The ground-colour of the egg is pure white, but the markings vary considerably. Some have a very few large and very dark brown spots on them, all situated on the larger end ; others have the larger end covered with smaller brown spots, often forming a zone, many of the markings appearing as if beneath the surface of the shell ; others again have a few small markings equally distributed all over the egg. One clutch Mr. H. G. Barnard took at Somerset on October 28th, 1896, measures : A ·88 × ·61, B ·84 × ·60 inch ; and another clutch I took on November 25th, 1896, in the Bloomfield River district, measures : A ·88 × ·65, B ·87 × ·66 inch.

9. GERYGONE PERSONATA Gould. (Masked Gerygone) These little birds are very shy and difficult to secure in the thick scrub where they make their home. One curious circumstance is that they always seem to build their hanging, dome-shaped nests in close proximity to a wasps'-nest, from within a few inches to four feet away, and it is difficult to conjecture for what reason. The nests vary in size and are generally suspended from the end of a thin branch or palm-leaf. They have a porch at the entrance, sometimes going straight in and occasionally upward, and more prominent in some than in others. The nest is composed of fine fibres of grass, and on the lower portion, which hangs loose below, are often fastened the dried excreta of wood-boring caterpillars, which add weight to it and prevent its being blown over or against the nest. Small portions of the same material are often placed on the exterior of the nest. It is lined with fine brown-coloured down off the seeds of scrub-plants; a good deal of cobweb is worked in, which materially helps to keep the lightly-built structure together, and cobweb is also plentifully put on the outside. The nest measures in depth 5 inches, exclusive of 3 inches of loose material hanging under it. Inside chamber 2½ inches. Breadth: external 2½ inches, top of porch 1½ inch; internal 2 inches. The eggs are three in number; their ground-colour is white, and they are thickly marked with reddish spots, varying in intensity of colour, the markings being much more numerous on the larger end and often confluent. A clutch taken on the 3rd February, 1897, by Mr. Barnard at Somerset, measure: A ·80 × ·51, B ·82 × ·48, C ·82 × ·46 inch.

I have occasionally found the egg of the Little Bronze Cuckoo (*Chalcites minutillus* Gould) in the nest of this bird, but much more frequently in the nests of *Gerygone magnirostris*. Mr. Barnard found many nests of *G. personata* containing one or two eggs partially dried; one nest contained three eggs too dry to blow, and three eggs placed on top of them perfectly fresh. The eggs' drying he attributed to the intense heat.

V.—*On the Rediscovery of three remarkable Species of Birds of South America.* By HANS, Graf von BERLEPSCH.

(Plate II.)

1. PIPRA OPALIZANS. (Plate II.)

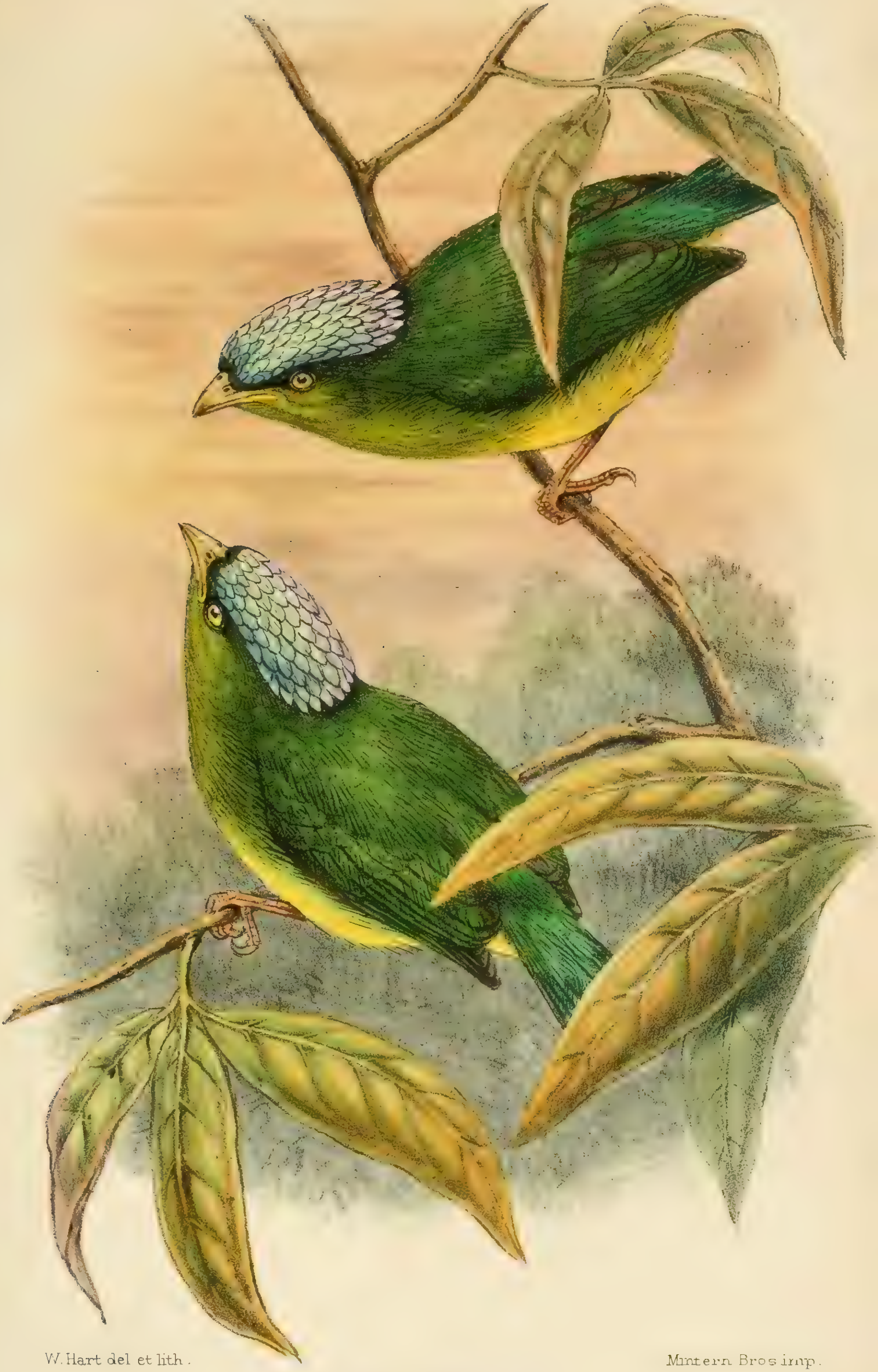
In the second part of his 'Zur Ornithologie Brasiliens,' published at the end of 1868 (pp. 128, 186–187), Herr August von Pelzeln made known a new species of *Pipra* from a MS. description of Johann Natterer, who collected a single specimen of this bird in the neighbourhood of Pará, Lower Amazons. Unfortunately this single individual was lost, and Herr von Pelzeln was obliged to form a diagnosis from Natterer's MS. description, which, nevertheless, was very full and detailed, and now proves also to be quite correct.

In 1888 Mr. Sclater, when writing his Catalogue of the *Pipridæ* in the British Museum (vol. xiv. p. 292), remarked in a footnote that he was not acquainted with *Pipra opalizans*, Pelz., and nothing has since been published about that species.

After this, a young entomological collector, Herr Albert Schulz, of Prussia, intending to collect birds for me on the Lower Amazons, asked me for descriptions of rare birds inhabiting that country, and when leaving for Pará, besides descriptions of other birds, took with him a diagnosis of *Pipra opalizans*. The first collection I received from him was not very promising, but the second contained a specimen of *Pipra opalizans*.

Before receiving this collection, I had a letter from Mr. Schulz with a list of its contents. He had tried to name his species after the descriptions in his hands, and I found the name of *Pipra opalizans* in his list. I confess I did not believe in the correctness of this identification, and was really surprised when, on opening the box, I found a true *Pipra opalizans*, which proved to be one of the finest and most singular birds which I ever had before my eyes.

The bird obtained by Schulz is evidently a male, and is no doubt in perfect plumage. The upper parts, including



W. Hart del et lith.

Mintern Bros imp.

PIPRA OPALIZANS.

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wings and tail, are dark green, becoming lighter and brighter on the rump and upper tail-coverts. The throat, upper breast, and the sides of the body, the sides of the head, and a frontal line are of a lighter or more yellowish green. The belly and under tail-coverts are clear yellow. The head above is ornamented by a plaque composed of flat metallic feathers of unsurpassed beauty. They might be classed as being like mother-of-pearl with a glittering hue of opal (which peculiarity induced Natterer to call the species *Pipra opalizans*), but at the same time may be observed a rich coruscation on it of the purest gold and silver.

It is impossible to get an idea of the brightness of the cap of *Pipra opalizans* without having seen the bird, and I think it might well be called the finest bird in existence. It may be added that on the neck the metallic feathers of the cap become lengthened and pointed to the tip, and here they are somewhat expanded, forming a sort of crest. The upper mandible is plumbeous at the base, becoming whiter on the apical portion. The under mandible is white, legs and toes flesh-coloured.

My specimen has the wings and tail in moult, and unfortunately, from an accident, has lost the tip of the upper mandible, therefore its measurements are not of much use. They are about as follows: long. tot. 95, al. 51, caud. 26, culm. about 9, tars. 13½ mm.

As already pointed out by Johann Natterer, the nearest ally of *Pipra opalizans* is *P. nattereri*, Scl.; but the latter species has the cap of the head pure white, and has a white rump, which in *P. opalizans* is green like the back.

My specimen, which I believe is now the only one in existence in any public or private collection, was obtained by Mr. Albert Schulz near Ourem, on the Rio Guamá, which joins the Amazons near Pará, south-east of that city, on the 2nd February, 1894. The sex is labelled as "♀ juv. (?)," which is evidently an error, and there is a note on the back of the label that the sexual organs were undiscernible and that it was probably "♂ ad." The iris is marked as pale yellow ("hellgelb").

Immediately on receiving this specimen, I wrote a letter to Mr. Schulz asking him to collect more specimens of *Pipra opalizans,* for which I offered him a good price; but he did not succeed in finding it again, and unfortunately, owing to bad health, he was obliged to return to Germany in 1895.

2. IDIOPSAR BRACHYURUS.

This curious bird was described by the late Mr. Cassin, in his "Study of the *Icteridæ*" (Proc. Ac. N. Sc. Philad. 1866, p. 414), from a single specimen said to have been procured near La Paz in Bolivia by Mr. D. K. Cartter. Mr. Sclater, having examined the type belonging to the U.S. National Museum at Washington, pointed out (in an article in 'The Ibis,' 1884, p. 240), quite correctly, I think, that *Idiopsar brachyurus* is not an Icterine bird but a Finch, reminding one of *Phrygilus unicolor* by its style of coloration, but possessing quite an extraordinary bill for a Finch.

Now I have great pleasure to announce that my collector, Herr Gustav Garlepp, with the aid of a copy of the figure in 'The Ibis' for 1884, and having received special instructions from me to make every effort to find this bird, after having vainly searched for it in the neighbourhood of La Paz, was at last so fortunate as to discover it at Iquico on the Illimani (4000 metres) in February 1895, and to find it again near Rinconada, on the road over the Andes, also east of La Paz at the same altitude (4000 metres), in September 1896.

Altogether, Mr. Garlepp has sent me twelve specimens, including adults of both sexes and a young bird, all of them being nearly alike in coloration.

It may not be out of place to give here an abstract of Garlepp's letter relating to this important discovery, translated from the German original :—

"Iquico, 26th February, 1895.

"......After some delay, caused by our illness, and after a riding journey of two days (from La Paz), we at last arrived here, which is a hacienda situated on the north-eastern slope of the majestic Illimani. This was on the 14th of January. During the first eight or ten days my brother and I made some excursions up and down hill to reconnoitre the ground. The time was not good for collecting birds, most of them being moulting. Nevertheless, of *Aglæactis pamela,* which was very common, we collected a large number, and I was very much pleased to find, at a great altitude near the line of eternal snow in company with other Ground-Finches (such as *Spodiornis jelskii, Diuca speculifera,* etc.), the much sought-after *Idiopsar brachyurus.* I have, so far, shot only five specimens, and cannot yet say much about this curious bird. In these high regions, where it rains, hails, or snows twenty hours of the day, the vegetation is very scanty, and consists only of gramineous plants, and such herbs as can grow between the débris of rocks and blocks of stone. In such situations this bird searches after insects, and is sometimes to be seen sitting on the stones holding its long beak upward, which is a curious sight. The people of this country know the bird well, and call it 'Agusanieve,' which means that it searches after insects under the snow. I was told that in heavy snowfalls these birds cannot fly and are easily taken by hand."

In a later letter Mr. Garlepp says that he found the *Idiopsar* at different places on the Cordillera at the altitude of 14,000 feet, and that he now thinks it feeds exclusively on seeds. He also says that males and females are quite alike, and that he had prepared skeletons of two moulting specimens.

As already said, I fully agree with Mr. Sclater that *Idiopsar* is not an Icterine bird, but a true Fringilline, perhaps most nearly related to *Phrygilus* or *Diuca.* It truly looks like *Phrygilus unicolor* with a much exaggerated and deformed bill.

The males and females, as sexed by Garlepp, do not show any difference either in coloration or form; it only appears that the older specimens have longer bills, which are more

	Long. tot.	Al.	Caud.	Culm.	Tars.
	mm.	mm.	mm.	mm.	mm.
1. G. Garlepp legit no. 990. "♂ s!" (ad.). Iquico, 23 I. 1895. "Iris rotbraun"......	"175"	104½	70	21½	27
2. " " 992. "♀ s!" (ad.). " 23 I. 1895. " "	"180"	101	68½	20½	25½
3. " " 993. "♂ s!" (ad.). " 23 I. 1895. " "	"170"	99	69½	19¾	26½
4. " " 994. "♂ s!" (ad.). " 23 I. 1895. " "	"180"	104½	73	20½	26
5. " " 1050. "♀ s" (ad.). " 1 II. 1895. " "	"180"	104½	75½	20½	26½
6. " " 1512. "?" (av. jr.). Rinconada, 28 II. 1896. "Iris gelbbraun"	....	101	71	19¾	26½
7. " " 1515. "♂ s" (ad.). " 2 VII. 1896................	"175"	101	72	21¾	25
8. " " 1645. "♂ s" (ad.). " 6 IX. 1896. "Iris gelbbraun"	....	105	75½	20¼	26
9. " " 1646. "♀ s?" (ad.). " 6 IX. 1896. " " ..	....	100½	69¾	21	26
10. " " 1647. "♂ s" (ad.). " 6 IX. 1896. " " ..	....	97½	68	21½	26
11. " " 1648. "♀ s?" (ad.). " 6 IX. 1896. " " ..	....	105½	73	22¾	26¼
12. " " 1650. "♂ s" (ad.). " 6 IX. 1896. " " ..	....	103	72½	22½	26¾

compressed in the apical half, while younger specimens have the bill much shorter and comparatively thicker or more swollen, with the culmen more rounded. The latter also have the plumage more or less soiled with brownish, while the adults are of a clearer slate or plumbeous grey above and of a purer ashy beneath; but on the whole the difference is only slight.

It must be remembered that in all the allied Fringilline forms (such as *Phrygilus, Spodiornis,* and *Haplospiza*) the females differ widely from the males in their coloration, while in *Diuca* the difference between the sexes is but slight.

It cannot be said that the figure in 'The Ibis' is very correct, the bird there looking not at all like a Ground-Finch, which he really is; but, at all events, this figure aided Mr. Garlepp to find the bird in a totally different situation (on the ground), and I think this energetic traveller is much to be congratulated upon the rediscovery of one of the most singular South-American types, as Mr. Sclater has called it.

I give measurements (p. 64) of the twelve specimens now before me.

3. CHRYSOLAMPIS CHLOROLÆMUS.

Lampornis calosoma, Elliot (1872).

In his Catalogue of the Trochilidæ of the British Museum (vol. xvi. p. 96), Mr. Osbert Salvin made a remark that "Graf H. v. Berlepsch has a specimen of this bird (viz. *Lampornis calosoma*) received direct from Bahia." This is the case, whereas Mr. Elliot, when describing the species, believed it to be from somewhere in the West Indies.

Perhaps some of my brother ornithologists may take an interest in the story of how I got my bird. Some years ago (in 1888) I was told that a merchant in a village called "Veckerhagen," on the Weser, was anxious to dispose of a small lot of bird-skins which he had received from his son, who then was a clerk in a business at Bahia. I asked him to send me the lot, and found it contained bird-skins of bright colours of the usual Bahia make, viz. trade-skins prepared for millinery purposes. There were some fifty *Rhamphocelus brasilius,* a number of *Galbula rufoviridis, Pipra erythrocephala,* &c., and a few Humming-birds, such as *Lampornis nigricollis, Petasophora serrirostris, Agyrtria leucogastra,* and a splendid specimen of *Chrysolampis chlorolæmus.* The skin of this bird is quite of the same make as that of the others: viz., high breast, flat throat, tail-feathers spread out like a fan, and a slip of paper round the body.

The young man who sent the birds from Bahia afterwards returned to Germany, and I spoke with him. He told me that he got all the skins from a dealer at Bahia, who used to prepare skins for millinery purposes. Consequently there cannot be the slightest doubt that *Chrysolampis chlorolæmus* is really an inhabitant of the province of Bahia in Brazil.

My specimen, which is evidently an old male in perfect plumage, measures: al. 60½, caud. 36, culm. 18¾ mm.

I think that the correct name for this species is *Chrysolampis chlorolæmus* (Elliot).

Regarding the generic name, I may remark that the silvery-greenish glittering head and neck, and the rufous middle tail-feathers, as well as the produced feathering from the front along the base of the upper mandible, are characters which associate it with *Chrysolampis,* while the longer bill and the serrated maxilla (as Salvin remarks) speak rather for *Lampornis.* It is in fact somewhat intermediate between *Chrysolampis* and *Lampornis,* but to my mind the characters of *Chrysolampis* prevail in it against those of *Lampornis.*

About the specific name, I think there can be no doubt that *chlorolæmus* of Mr. Elliot is the oldest. The name *calosoma,* proposed by Mr. Elliot two years later, must become a synonym. It is true that there was already an *Eulampis chlorolæmus,* Gld., which by Cabanis and Heine was placed with *Lampornis,* but this fact does not justify us in withdrawing the specific name of *chlorolæmus* from our bird. Even if placed again in the genus *Lampornis,* this species ought to stand as *Lampornis chlorolæma* (Elliot).

So far as I know, the original specimen in the American

Museum of New York, that in the British Museum (ex coll. Salvin and Godman), and my own are the only representatives of this rare Humming-bird in our collections of natural history.

VI.—*Notes on some Specimens of* Anatidæ *in the late Count Ninni's Collection.* By Prof. ETTORE ARRIGONI DEGLI ODDI.

THE much-lamented Count Alexander P. Ninni, a name dear to naturalists of every country, left his rich collections of natural history to the city of Venice, where they were consigned to the Correr Museum. The most remarkable part of them is the series of birds, which consists of about one thousand specimens, illustrative of the avifauna of the province of Venice. But several rare specimens have most unfortunately been lost through the carelessness of those to whom they were entrusted. Among these are an example of *Œdemia nigra,* of which only the head is left, and an example of a cross between *Anas boscas* and *Chaulelasmus streperus* destroyed by moths. In fact it is owing to the indefatigable activity and intelligence of my friend Prof. Joseph Scarpa, appointed by the city of Venice to put the collections into order, that they have escaped further loss.

The greater number of the specimens in this collection are unfortunately without date and locality. It is, however, certain that they were all obtained in the Venetian estuary and the adjoining seas within the last few years. Count Ninni had many correspondents who brought him everything interesting they met with, among whom I may mention Giovanni Minotto, a preparator and punt-gunner. Although not gifted with knowledge acquired from books, Minotto is endowed with great natural ability, and was a coadjutor of Count Ninni's of no little importance, and since the latter's death he has been very useful to me in collecting and mounting birds for my museum.

The Anatidæ, consisting of about one hundred specimens, are the most largely represented family in the collection, and

I think it convenient to take this group into consideration first.

1. Tadorna cornuta. (Venetian name "*Cherso.*")

A rare species in the Venetian estuary, where it generally appears at the time of migration in winter, but it has also been seen in the months of July and August. Formerly it was more common.

2. Anas boscas. (Venetian name "*Mazzorin*" ♂, "*Anara*" ♀.)

The Mallard is common in Venetian territory, where it is also a resident, but the number increases wonderfully in winter on account of the large flocks from the north, which arrive in the month of November and leave in February. It breeds commonly in our regions, but formerly its breeding-places were much more numerous. In August many adult males are killed, and this is the time of its moulting-plumage; one in this condition of plumage is in the collection, but such specimens are rare in our Italian museums.

3. Mareca penelope. (Venetian name "*Ciosso*" ♂, "*Ciossa*" ♀.)

The Wigeon is the most common of the Ducks that frequent the estuary. It is an autumn bird, passing between August 20th and November 20th, and returning between March 2nd and April 30th. Sometimes we see large flocks of Wigeon in the lagoons, principally composed of young birds in their first nuptial dress. They are commonly called *Ciossi di baro*, the *baro* being the *Zostera marina*, a seaweed on which they feed. This bird very seldom breeds in this country.

4. Dafila acuta. (Venetian name "*Asia*" ♂, "*Asiada*" ♀, "*Colanzi.*")

The Pintail is a common species in the Venetian territory as an autumn bird, passing between August 15th and September 30th, and between March 15th and April 30th. It is also sometimes seen in May, but seldom. Naccari, in his 'Ornitologia Veneta,' states that this species breeds in our district, but this is doubtful.

5. Fuligula rufina. (Venetian name "*Ciosso turco.*")

The Red-crested Pochard is a rare bird which appears in Venetia in November and in the months of March and April. It frequents large spaces of water in the lagoons and sea. Some are killed every year. I have three in my collection, and every Venetian museum has specimens obtained in these regions. Even while I am writing (April), I have heard of a specimen having been lately caught in the estuary. It has been stuffed by G. Minotto, who was my informant, and is now in the possession of Mr. G. Voltolina at Chioggia.

6. Fuligula marila. (Venetian names "*Magasso de la schena zenarina,*" "*Moretōn.*")

The Scaup is neither common nor very rare; it appears at the time of migration and in winter. I have killed several individuals, and have some twenty specimens in my collection. It frequents large expanses of water, and prefers the deep places where seaweeds abound. It lives in flocks along with the Common Pochard and Tufted Duck.

7. Fuligula ferina. (Venetian name "*Magassōn,*" "*Magassōn dal fero,*" "*Magassōn monàro.*")

The Common Pochard is more abundant than the Tufted Duck in this country; it appears towards the 15th of September, but I have killed specimens in August. The birds that remain with us during the winter depart in February, at which time immigrants arrive; the latter occasionally defer their departure from our waters till April. Sometimes the Venetian lagoons are frequented by immense quantities of Pochards. They live in flocks on the large and deep expanses of water where seaweeds and vegetation of all kinds abound. The cold and ice do not affect them, but they leave us as soon as the warm weather comes on. Like other Ducks, they are an object of active and profitable pursuit, but their flesh is not delicate. This species does not breed with us.

8. Œdemia fusca. (Venetian name "*Orco marin.*")

The Velvet Scoter, as Count Ninni says *, is certainly less common than the Gadwall and Ferruginous Duck, but it appears every year in our lagoons and especially in the sea, more frequently than the Common Sheld-duck and the Goosander. It is seen in autumn and in winter. It begins to arrive in October—the several specimens in my collection were killed between October and January,—but Count Contarini * says that individuals have been killed in April and May. As a young bird the Velvet Scoter is not very uncommon, but males in full plumage are rare, and I do not possess a specimen of the latter in my collection. Count Ninni calculated that in 1885 no less than fifty of these birds were obtained in this country; but if the calculation was correct at that time it certainly is not now, and the species has become much less frequent.

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* Atti R. Ist. Ven. ser. 6, t. iii. p. 223 (1885).

9. ŒDEMIA NIGRA. (Venetian name "*Orchèto marin.*")

Count Ninni † did not hesitate to say that the Common Scoter is a rare bird in the Venetian province, and in fact it appears very seldom and quite as a straggler among us. It has been seen in winter between October and April. Count Contarini says ‡ that individuals have been killed in May, but there is no proof that this assertion is correct. Count Ninni procured two in 1884 (*in litt.*), and probably the head in his collection belonged to one of them. After that date an adult male in full breeding-plumage was killed on the Lago di Garda near Pacengo on April 7th, 1888; this was stuffed by V. Dal Nero and is now in the possession of Count Fratta at Lasiza.

In 1885 G. Minotto killed three specimens in November on our lagoons, two of which, a young male and an adult female, came into my possession; the third—a young bird—is in the Museo Scarpa at Treviso. Three other specimens were seen between the 14th and 22nd of October of the same year in the lagoons at "Sette Morti" and in the sea near S. Elisabetta de Lido, but it was not possible to get near them on account of the rough weather. These are the only authentic captures of this Duck that I know of in the Venetian region. The Common Scoter is one of the rarest Italian species; in the province of Cremona it has perhaps occurred more frequently, and within the last few days Mr. Ferragne has informed me that, where the river Adda flows into the Po, he met with two specimens—a male and a female—on the 9th of April, which he was unable to get at, but which were subsequently killed by a punt-gunner, who brought them to him to be stuffed. These two specimens are now in my collection.

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* 'Venezia e le sue lagune,' vol. ii. p. 222 (1847).

† Prov. d. Venezia, Monogr. st. econ. anim., etc. del Conte Sormani Moretti, Venezia, 1880–81.

‡ *L. c.* p. 196.

10. HARELDA GLACIALIS. (Venetian name "*Orchèto marin,*" "*Anara da la coa longa.*").

This species in young plumage is not very rare in the Venetian estuary, but adults, especially males * in full winter-plumage and in spring nuptial dress, are seldom seen, though they occur at times. The species is more often met with in the very cold weather, when it frequents the sea and open lagoons rather than the "valli." I have in my collection fourteen specimens taken on our coasts between October and January, among which are two magnificent males in full plumage. It has more commonly been killed in October than during migration in the spring. In 1887 there was an extraordinary flight of this species in the Venetian estuary during the months of October and November, more than one hundred specimens being captured; but after that period few were observed. I have occasionally seen some Long-tailed Ducks on our lagoons. They are not very shy and are easily approached. They often dive and reappear on the surface of the water at no great distance; if closely pursued they take to flight, but soon rest again on the water. They can remain under water for a long time, much longer than the Goldeneye, and almost as long as the Grebes and Divers. Their flight is very rapid and sinuous, and they often flap their short wings and alter their direction by turning their bodies from side to side. While swimming they continually fish, and prefer to stay where the water is the deepest and where the flow is the most rapid. They feed on small fishes and on seaweeds, such as *Zostera marina*, *Z. nana*, and *Ruppia maritima*.

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* The last adult male of which I know was killed on the lagoon on the 13th December last and taken to Count Emile Ninni, the son of Count Alexander. The former stuffed the bird himself, and it is now in his collection at Venice.

11. SOMATERIA MOLLISSIMA.

Only two specimens of the Eider Duck have been obtained in the Venetian estuary—namely, a male and a female by Count Ninni in 1882. The former was killed at the mouth of the port of Tre Porti on the 1st October, and the latter in the lagoon on the 20th November. Some days after, *i. e.* December 25th, a third was seen in company with several Velvet Scoters.

The Common Eider is a straggler and rarely seen in the Venetian or any other part of the Italian dominions. It has appeared between October and April, and generally in young plumage. The specimens in Count Camozzi's collection at Bergamo, and Dal Fiume's collection at Badia Polesina, labelled as coming from Venice and Lecco respectively, cannot positively be said to have been obtained in Italy. The Eider is exclusively a shore-bird, and very seldom forsakes the sea-coast in its migrations.

12. SOMATERIA SPECTABILIS.

The splendid specimen of the King-Eider in Count Ninni's collection is, so far as I know, the only one that has been killed in Italy. It was obtained on the 21st August, 1888, at the "Pignatelle"*, by the punt-gunner G. Minotto. The stomach was full of remains of crabs (*Carcinus mænas*). Minotto observed that the bird was not at all shy, and that to feed it dived and reappeared on the surface of the water after a somewhat long interval, after the manner of the Goldeneye. The sternum, with the trachea, of this bird was given by Count Ninni to the Museum at Florence. Count Ninni and the well-known authority Prof. Giglioli† believe that the specimen is a young male, but I am inclined to think that it is an adult male in moulting-dress, on account of the considerable development of the shields at the base of the bill. The most southern specimen of the King-Eider previously killed in Europe appears to be that obtained near Boulogne, and mentioned by Degland and Gerbe*. The species is rare even in England and Scandinavia, and from what authors say it seems to be altogether an Arctic bird.

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* Ninni, Boll. Nat. viii. p. 137 (1888).

† *Cf.* Avif. Ital. i. p. 493 (1889).

13. ERISMATURA LEUCOCEPHALA. (Venetian name "*Magasseto foresto.*")

The White-headed Duck is very rare in the Venetian estuary; it appears in winter and at the periods of migration, but always as a straggler. I procured one from the territory of Padua on the 25th February, 1884, and two on the 25th February, 1896, which were killed in the estuary in the channel of "Piove," opposite my hunting-quarters in the "Valle Zappa," by the gamekeeper C. Framonte. The last-named specimens (male and female) are both very fine; they have been stuffed by Mr. H. Bonomi, of Milan, and are now in my collection, along with a specimen obtained in 1884 and with others from Sardinia.

This species is not generally distributed over Italy; it is often met with in Sicily and Sardinia, where it breeds, and where it seems to be a resident as well as a migrant; it is also seen in the great marshes of the Capitanata and in the salt-lagoons of Barletta, where it most probably breeds, but this cannot be stated with certainty. In many other parts of Italy it is a very rare bird, and the further north we go the more it becomes simply a straggler.

14. MERGUS MERGANSER. (Venetian name "*Serolon de Po,*" "*Serolon oca.*")

The Goosander is a rare bird in the Venetian lagoon, and is not met with every year. Young specimens are the most common. It prefers the sea and open lagoon, where the water is deep, and is most frequently seen between the months of October and December, but it occurs sometimes after this period. Mr. V. Dal Nero, a keen observer, writes to me that a male in nuptial plumage was caught on the 16th May, 1887, on the Lake of Garda, and was stuffed by him. I have in my possession a male and a female killed in this country in October and November, and the last specimen obtained in our neighbourhood was on the 19th March, 1895. This is an adult male, stuffed by G. Minotto, and is now in a private collection in Venice.

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* Orn. Eur. ed. 2, ii. p. 559 (1867).

VII.—*An Ornithological Expedition to the Cape Verde Islands.* By BOYD ALEXANDER.

(Plate III.)

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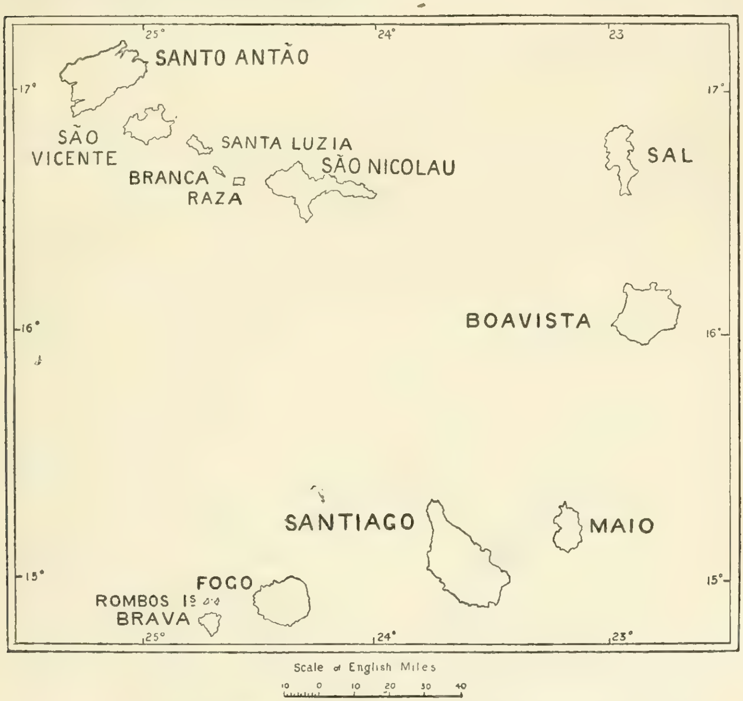
I. *Introduction.*

ALTHOUGH Dr. Dohrn and Mr. Keulemans have recorded the results of their observations from the Cape Verde Islands in the 'Journal für Ornithologie' for 1871, it has long been felt, among those interested in the African Avifauna, that a further and more systematic working of the Islands would reveal many interesting facts. With this object in view, I left Liverpool on February 28th, 1897, for São Vicente, accompanied by a friend, Mr. John Duncan, and two skinners (Ramm of Cley, and Griffin of Tunbridge Wells).

During the voyage, besides numbers of Herring- and Lesser Black-backed Gulls that followed the vessel whenever we neared land, we noticed on approaching Vigo, off the Spanish coast, large parties of Guillemots and Razorbills on the way northward to breed, and from Vigo down to Lisbon a considerable number of Gannets. At Lisbon, close to the quay, I observed an example of *Larus melanocephalus,* with the black hood almost assumed.


25°
24°
23
17°
17°
SANTO ANTÃO
SÃO VICENTE
SANTA LUZIA
BRANCA
RAZA
SÃO NICOLAU
SAL
16°
16°
BOAVISTA
SANTIAGO
MAIO
15°
15°
FOGO
ROMBOS Iᵒˢ
BRAVA
25°
24°
23°
Scale of English Miles
10 0 10 20 30 40

Outline Map of the Cape Verde Islands.

(The names are taken from the article in Longmans' 'Gazetteer,' 1895, by Mr. J. Batalha-Reis.)

On the morning of February 10th we arrived at São Vicente. The barren aspect of the island with its lofty hills, volcanic to the last degree, and with sides terminating seaward in precipices, discouraged us not a little. On landing, the British Consul introduced us to the Governor-General, Senhor Serpa Pinto, who seemed greatly amused at the object of our expedition, telling us that "the resident species on the islands are very few: in fact, nearly all the birds are migratory and come from the Continent." Then, pointing to a cage close by full of Estreldas, he said: "You can find these birds on Santiago breeding in a wild state, among the sugar-cane. They were originally imported from the West Coast." Moreover, to add to our discouragement, we learnt that we had come too late to find the birds nesting, the breeding-season being in August, September, and October, during the fall of the rains.

II. *Santiago.*

My original intention had been to commence by working Santo Antão, situated not more than nine miles from São Vicente, from the quay of which its southern coast, gently sloping up to volcanic masses of hills, could be easily discerned. But the Governor-General, who happened to be going to Santiago, advised us to accompany him, and kindly promised every help in his power towards the furtherance of the expedition, adding that that island was the best of the group as regards bird-life. Accordingly, on February 12th, in the afternoon, we started in the 'Loanda,' the Portuguese mail-steamer, and at daybreak the next morning reached Santiago, and dropped anchor in Porto Praya.

The first birds we saw were a number of Black Kites. Fifteen to twenty appeared over the water and kept beating round the vessel's sides, dexterously catching up pieces of offal. With legs well tucked into the breast-feathers, a Kite would swoop towards its selected prey, always going past it by a few inches; when, with a sharp clean stroke, the feet would be brought down to catch the object up, and then, clearing the water by a few beats of its wings, the bird prepared to devour the morsel, the head being lowered and the feet grasping the food raised to the mouth, a movement full of grace.

Overlooking the bay is Praya itself, built upon a small oblong plateau, the sides of which in places are inaccessible. The houses, square and low, present a bright appearance;

for the walls of some are of glaring white plaster, while others are painted pink, light blue, or yellow, as the case may be. Beyond these houses are clusters of huts belonging to the peasants, simply constructed; the walls being of stones pieced together and thatched with the dried blades of the sugar-cane. Directly below the plateau, and on each side, there are ravines holding narrow groves of coconut-trees, with small plots of sugar-cane. The surface of the fair green blades is blotched here and there with the dark green of orange-bushes, and splashed in places with the yellow of flowering tamarisks. Looking towards the interior of the island, no luxuriance of vegetation is visible. In the middle distance there rises a series of cone-shaped hills, which become more numerous and mountainous in the far distance, while in the foreground are stretches of table-lands of varying levels, bordering the sea.

For three days we stayed at the Palace, where the Governor-General showed us much kindness. This stay enabled us to prepare for a start up country. While in Praya, I observed a few individuals of *Passer jagoensis*, which, like the town members of the House-Sparrow, frequented the vicinity of buildings. On my approach they used to get up and fly to the young trees that line the streets and there scrape their beaks after their meals, uttering now and again chirping notes that reminded me very much of those of our Pied Wagtail. Around the outskirts of the town, numbers of Egyptian Vultures, all adult birds, sat hunched up on the boulders that strew the plain, choosing, however, stones as far apart as possible one from another—as if a quarrel had taken place between them, resulting in a mutual coolness. These birds find plenty of food in Praya. Every morning, as regularly as clockwork, they used to troop over the town on their way to the slaughter-house that lies a little back from the quay, in order to gorge themselves on the offal. Then they would return the same way, but a little slower this time, to their old place of meeting beyond the town, where they remained inert throughout the heat of the day.

Deciding to work the western portion of the island first, I selected the vicinity of a small village called Caiarda, about six miles north of Praya, for our encampment. Owing to the heavy baggage, which had to be carried on donkeys, sixteen in number, it was by no means easy to get there, since communication between the different villages is maintained merely by rough stony footpaths. There is, however, one road of recent construction, due to the efforts of the present Governor-General, who has improved the island in more ways than one. This road, a good macadamized one, lies on the eastern side of the island, leading through the villages of São Jorge and San Domingo and then into the heart of the island. Nearly level throughout, it is a triumph in road-making, considering the hilly nature of the country.

On the 16th, after taking over three hours to accomplish the six miles, we pitched our tents close to the side of a steep valley, one of the largest in the island, and very long and tortuous. On nearing the coast it becomes nothing but a boulder-strewn watercourse, down which torrents rush in the rainy-season. But further inland, where local springs crop out, this valley, like many another in the island, is very fertile, abounding in sugar-cane plantations, orange-groves, and coconuts. Early the next morning we started to explore this valley, directing our course up its centre towards the village. After a mile of rough walking, we caught sight of clusters of huts peeping out from a mass of tropical growth, and close to a large sugar-cane plantation, bordered in places with strips of fish-cane.

On leaving the valleys and gaining the open country all signs of verdure disappear, and nothing but brown arid-looking plains and hill-slopes, too barren and exposed for cultivation and destitute of all forest growth, meets the eye. The gentler slopes are, however, clad here and there with *Acacia albida*; while portions of the plains are toned with patches of dried-up grass and the dark ivy-green leaves of a weedy-looking plant with coarse stem-growth.

While near Caiarda we worked nearly half the island, devoting our attention both to the shore-line and to the valleys, as well as to the higher ground. In all the steep valleys are colonies of black-faced West-African monkeys. From our tents we constantly caught sight of them chasing each other in and out of the rocks, while some, bolder than others, would gain the crest-line, where their figures showed out clear against the horizon.

On February 28th we proceeded to Praya and took steamer to Brava, where we stayed till March 16th, and then returned to Santiago, this time to Tarrafal, its northernmost point. From Tarrafal we journeyed back to Praya, a distance of 54 miles, working the country on the way. About halfway, at La Catrina, we put up at the Mayor of Tarrafal's country-house, situated in one of the most beautiful valleys of the island. Our next stop before reaching Praya was at São Jorge, placed in another valley almost equalling in beauty that of La Catrina.

On the 31st we returned to São Vicente and remained for two weeks in order to find out what the island possessed in the way of bird-life.

III. *List of the Birds of Santiago.*

1. NEOPHRON PERCNOPTERUS.

Parties of this species are the scavengers of nearly every village on the island. Breeding takes place in December and January.

Two specimens were obtained.

2. BUTEO VULGARIS.

This species is not mentioned by Dohrn. Only one specimen (♀) was obtained or observed. When first sighted, it sat facing us on a small tree halfway up one of the sides of a valley. On endeavouring to approach it, it flew away down the valley, but eventually returned after an absence of half an hour to the same spot, where it fell to my gun.

3. MILVUS MIGRANS.

It seems probable that the Kite of the Canary Islands recorded by Mr. Meade-Waldo under the name of *M. ictinus* is the Black Kite, which is plentifully distributed over the whole of Santiago, many birds taking up their abode in the rocky clefts of the precipitous valleys. Hence they swoop down among the huts and prey upon young chickens, to the great annoyance of the peasants, who often begged us to destroy these marauders, and great was their delight when they saw some fall to our guns. Considerable numbers also haunt many of the small bays along the coast, where fishing is carried on. One day we surprised a Kite in the act of devouring a Kittiwake Gull on a rock close to the sea. Several remarkably handsome specimens were obtained.

4. FALCO NEGLECTUS Schlegel.

Many of these Kestrels frequent the plains, and sit hunched up on the boulders, allowing one to pass close by without showing the slightest concern. In the vicinity of habitations their numbers increase. Their principal food consists of lizards and locusts, which people the plains in thousands. Hovering is seldom resorted to, the Kestrel merely making a straight swoop from its point of vantage, for rapid execution is absolutely necessary in order to fix the quick-moving lizard. In February we found these Kestrels pairing; the clear, rattling love-cries of the female, whenever the male approached, used to sound continually from nearly every valley. In this species coloration in plumage varies considerably, some birds exhibiting the ruddy colour of our Kestrel, while others are very dark and lack the rufous tinge altogether. Three specimens were obtained.

5. STRIX INSULARIS Pelz.

Not common, and found chiefly in the northern portion of the island. During our night rides we saw a few of these Owls that sat on the "purga" trees lining the roads. On our approach they used to fly away screeching. The natives also told us that they now and again drive them out of the tops of the coconut-trees.

6. Corvus umbrinus Sund.

It is very interesting to have found this species on the Cape Verde Islands, for it was generally supposed that the bird referred to by Dohrn as *C. corone* would prove to be *C. tingitanus* (see Irby, 'Ibis,' 1874, p. 264). *C. umbrinus* does not appear to have been recorded from any country nearer than Egypt. We found this species on nearly every plain, and also to a certain extent in the valleys. On February 25th we discovered a nest ready for eggs on a ledge of rock close to the sea and about thirty feet up. Locusts form the chief food of these birds, and they hunt for them in a most systematic manner. On several occasions I had the opportunity of watching them on the war-path. A party gets together and straightway sets about circumventing a portion of ground that is likely to hold locusts. Then a certain number spread themselves out like the cordon system of outposts, while the remainder, with quick strides, beat up the ground towards the locusts, which jump forward—the majority becoming the prey of the birds drawn up in line, who, carrying out the principle of "share and share alike," act in their turn as the skirmishers of the next beat. Three specimens were obtained (one a pied variety).

7. Sylvia conspicillata.

Spectacled Warblers are found in fair numbers on the higher ground, but never in the valleys. They resort a great deal to the acacia-trees, from the tops of which they rise up perpendicularly into the air, uttering all the while a chattering song, resembling that of their close congener *Sylvia cinerea*. Three specimens were obtained.

8. Sylvia atricapilla.

Blackcaps were numerous in every valley and in full song. Besides insects, they feed on the orange blossom as well as on the fruit, in which they peck big holes.

9. Sylvia atricapilla gularis subsp. nov.

This resident form of Blackcap differs from *S. atricapilla* in that both sexes have chin and upper throat umber-brown.

The song of the male is, moreover, very different. The bird commences with a confused chattering, not unlike that of the Whitethroat, and this lasts for at least five or six seconds; then the bird bubbles into the mellow-noted song of *Sylvia atricapilla*.

Adult male. Total length 5·84 inches, culmen 0·6, wing 2·8, tail 2·4, tarsus 0·8.

Adult female. Total length 5·8 inches, culmen 0·6, wing 2·8, tail 2·35, tarsus 0·81.

This resident form is not common; it was not until the end of February that the influx of the migratory *S. atricapilla* took place. Five specimens were obtained.

10. Calamocichla brevipennis (Dohrn).

Calamocichla brevipennis Sharpe, Cat. B. vii. p. 132.

We obtained a fine series of this Warbler. Though fully described by Dohrn in 1871, it appears to have been overlooked by Seebohm, and is not mentioned in his volume of the Catalogue of Birds. One of the typical specimens was presented to the British Museum by Dohrn in 1866. This bird is placed among the Bradypteri by Dr. Sharpe, in a new genus *Calamocichla*, which also includes the allied form *C. newtoni* of Madagascar. Dr. Sharpe also overlooked Dohrn's description, as will be seen from the footnote. Typical examples of the genus *Lusciniola*, such as *L. melanopogon* and *L. gracilirostris*, are very closely allied to the present species and to *C. newtoni*, but in both of these the first primary is proportionately longer and more than half the length of the second primary. The adult has the upper parts a uniform dull greenish olive, not russet-brown; the underparts dull white; and the sides and flanks are pale brownish white, devoid of yellowish buff. Again, the scales on the front of the tarsus are obsolete or absent, but in the immature bird are well marked.

It may be found necessary to unite *Calamocichla* with *Lusciniola*. The bird described by Dr. Sharpe is immature and not adult, the former having the upper parts russet-brown, and the underparts, sides, and flanks yellowish buff.

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
São Nicolau:	in.	in.	in.	in.	in.
Ad. ♂ ……	6·13	0·8	2·6	2·55	1·1
Ribeira, Santiago:					
Ad. ♀ ……	5·9	0·75	2·4	2·4	1·0

Although sparsely distributed, a few pairs of this Warbler may be met with in nearly every valley where there is plenty of growth in the form of orange-groves and coffee- and sugar-plantations. We found it most numerous at La Catrina, where there is a series of running streams flowing along the large dried-up watercourse of the fertile valley and bordering thick beds of the sugar- and fish-cane. A spot like this seems a favourite resort.

Of a retiring nature, it is difficult to catch a glimpse of this bird; for it is far more often heard than seen, as it threads its way through the thickest part of a sugar-cane plantation. Allowing of a near approach, it mocks the listener by pouring out from its cool recess some exquisitely melodious notes that might be rendered by the syllables, "*chou-chou-chou,*" "*keeup-keeup-keeup,*" "*kirreup.*" The first three are uttered with marked deliberation and followed by a pause, after which the remaining notes are given out in quick succession and in a higher key, a pretty, mellow trill being given to the last one. This song may be heard throughout the day, but is often very spasmodic in its rendering, becoming far more frequent, however, during the early morning and evening. The bird also has an alarm-note, a harsh, croaking "*churr,*" while its flight is strong and resembles closely that of the Reed Warbler (*Acrocephalus streperus*).

From February up to the first part of April the bird undergoes its spring moult, while breeding commences in August. The nest, composed of dry grass, is of a deep cup-shaped form, and is generally to be found built between two or three stems of the sugar-cane, and about five or six feet above the ground.

11. Passer salicicola Vieill.

The Spanish Sparrow frequents nearly every valley. We found it, however, most abundant at La Catrina, where we obtained a fine series. The favourite resort of these birds is a grove of tall coconut-trees, in the tops of which they build their nests, and owing to this the species has gained the name of "Coconut-bird" from the natives. The flight is very straight and steady, and a clear musical chirp is often uttered on the wing. They cause a considerable amount of damage to the oranges, in which they drill big holes. The number of males predominates over the females to a large extent.

12. Passer jagoensis.

Gould described this species as being peculiar to Santiago, but it has now become distributed throughout the whole group, though in nothing like such great numbers as in Santiago. We observed large flocks in the valleys and on the plains, and especially near the sea. These were chiefly composed of immature birds, the males showing a slight indication of the black patch on the throat, the feathers of the upper parts dark brown margined with light rufous, and a broad stripe of the latter colour over each eye. With the beginning of February the adults had commenced to undergo their spring moult, their plumage being anything but satisfactory in condition, and even by the end of May there were many which had some of their tail-feathers and primaries still in sheath. These Sparrows often fall victims to the Kite, and as a better safeguard against surprise they seek safety in numbers, coming together in immense flocks, and never getting far away from some good thick acacia-tree wherein to take refuge, or from the vicinity of a ravine strewn with boulders, into the crevices of which they creep like mice.

On March 28th, while at Praya, the Governor-General sent us a specimen for preservation. The upper mandible was totally malformed, being twisted almost round the lower one. The bird was in good condition, but how it could have obtained food appeared a mystery.

In August these Sparrows breed in large companies, many of the acacia-trees on the plains being crammed with their big untidy nest-structures of the previous season. On the plains they feed on small locusts and grass-seed.

13. Estrilda jagoensis sp. nov.

We found this species among the sugar-cane in large flocks, which keep up a continual twittering while on the wing. Altogether, in their behaviour and notes, they resemble the Lesser Redpoll. This bird is locally known as the "Sugar-cane bird." Thinking that this species was merely *Estrilda cinerea*, as recorded by Dohrn, we unfortunately did not pay much attention to it beyond obtaining one specimen.

Adult male. Most nearly allied to *Estrilda astrild*; but the general colour of the upper parts is grey, especially on the head and neck, and without any trace of rufous-brown. The chin and throat are pure white, slightly dusky on the cheeks, which show faint traces of darker bars; the ground-colour of the rest of the underparts is paler and greyer. Middle of the breast and belly pale rose-red; tail dark brownish black and considerably shorter than in *E. astrild*.

Total length (measured in flesh) 4·1 inches, culmen 0·38, wing 1·9, tail 1·8, tarsus 0·6.

14. Ammomanes cinctura (Gould).

By no means plentiful, and locally distributed on the stretches of high tableland near the sea. More than a week elapsed before we noticed this species, and then only two birds, on a piece of loose gravelly land near Praya. This pair had a nest containing one young bird, almost fledged. On approaching the nest the two old birds, which were not far off, ran at a rapid rate towards their young one, the male bird uttering the whole time a plaintive "*wheet*."

Though we discovered more of this species later on, I never heard them utter more than this one note. They were always seen either singly or in pairs. Seven specimens were obtained.

15. Pyrrhulauda nigriceps Gould.

Locally distributed on the island and becoming less plentiful in its northern portion. It frequents the stretches of the higher plain levels near the coast, in flocks that vary greatly in size. On one occasion we saw as many as sixty birds together. In these flocks there is a great percentage of females. To discover the presence of these birds puzzled us considerably at times. On the approach of footsteps they emit a faint, piping, ventriloquial note, like that of a young chicken, as they sit crouched together among the stones; and their plumage being much like the colour of the soil, it is almost next to impossible to discover them. They generally sit very close, and resort to flight only when absolutely obliged, then rising up close to one's feet to fly a few hundred yards ahead, and alighting again. The male has rather a pleasing little song, but somewhat monotonous. It is uttered on the wing, and sometimes, but not often, on the topmost twig of a tree. When singing on the wing the bird rises in concentric circles, with a very jerky Pipit-like flight, up to a height of not more than thirty feet, and then hangs in the air for a few seconds, after which it stops its song, and, with wings closed, drops to the ground again. Their chief food is grass-seed, and throughout the day the birds keep moving from one feeding-ground to another. In February we found them moulting, the plumage of the majority being in a poor state.

This species, though nearly allied to *P. melanauchen* from Nubia and India, appears to be well-founded. The male differs constantly in having the occiput and nape uniform white, shading gradually into the sandy brown of the back, and lacking altogether a black collar. The white also on the forehead extends further over the crown.

The female does not appear to have been described. It scarcely differs in plumage from the female of *P. melanauchen.*

Adult male (Santiago). Length 4·8 inches; bill light bluish horn-colour; iris dark hazel; legs and claws flesh-colour.

Adult female (Santiago). Length 4·2 inches; soft parts same as in male.

Seven specimens were obtained.

16. Cypselus unicolor Jard.

We saw several of these birds flying round the houses in Praya.

17. Halcyon erythrogaster Gould.

This Kingfisher was about the first bird that we met with on landing. There is hardly a valley or dried-up watercourse that does not harbour several; while it is not unusual to find a pair or two along a rocky portion of the shore. It is a confiding bird, evincing a decided fondness for proclaiming its presence to every passer-by. When disturbed, with a slow and Jay-like flight it reluctantly travels forward, only to settle a few yards ahead on some slender overhanging twig of an acacia-tree, turns about, and, with neck bobbing up and down, stares one full in the face with large wide-awake eyes; while its bright plumage stands out clear and distinct, even through the fine network of the acacia-tree.

The bird possesses a song, or rather it might be described as a running voluble chatter, now soft, now *crescendo*, uttered on the wing and also when sitting, becoming loud and frequent, however, when the bird meets his mate. When the soft light of a brief twilight begins to reign over the valleys, the quaint, chatter-like song of this Kingfisher will often be heard rising above the humdrum singing of the locusts, and only drowned now and again by the rattling of the fan-like leaves of the coconut-trees. During the heat of the day this bird is fond of resorting to some shady pool, where it frequently indulges in a bath. From a branch overhanging the cool water it performs a series of dives, returning after each to the same perch, there to shake and preen its feathers before dipping again into the water. Its food consists of insects and lizards.

The voracity of the bird is sometimes remarkable. On one occasion one was killed in the act of swallowing a lizard measuring nearly five inches. When seeking after food a commanding position is taken up, whence the bird starts to catch its passing prey, returning again, after the manner of the Flycatchers, to the same point.

Five specimens were obtained.

18. COLUMBA LIVIA.

Found in a more or less domesticated state in many of the valleys in which there are villages.

19. COTURNIX COMMUNIS.

We rarely met with the red-throated resident form of Quail, *C. capensis*, and the only specimen of it obtained could not be preserved. We often found migrants of the Common Quail, and always in exactly the same spots. We killed more than a dozen of these, and all were females, from which we are inclined to think that the sexes of this species on migration keep apart. Quails are not so numerous as they used to be. The Governor-General, who is a keen sportsman, told me that four years ago it was not an unusual thing to go out and get thirty brace in a day. The present scarcity is no doubt due to the lack of food, consequent on there having been no rain for the last three years.

20. NUMIDA MELEAGRIS.

The common Helmeted Guinea-fowl is abundant on the island, and is to be met with on the plains as well as on the high ground. We frequently saw large flocks, sometimes numbering over a score, but they were very wild, and the fact of there being no cover added to the difficulty in approaching them. While the Flying Squadron was at Praya the Governor-General organized a "shoot" for the officers, and, although beaters were employed, only five fowls were bagged throughout the day. At night the Guinea-fowls come down from the high ground into the valleys and roost in the acacia-trees. It is then that the natives go after them and knock them over with sticks.

21. CURSORIUS GALLICUS.

Only in one locality did we come across this Courser, and that was on a small, loose, stony tableland close to the sea, and not far from Praya. The flock was not a large one, consisting of 11 birds, the majority of which were immature. After the first two or three shots they became very shy, running ahead of us at a prodigious rate for 500 yards or so, and then getting up and taking a wide circle out to sea, sometimes disappearing entirely from view, but always returning to the same locality, where they evidently breed. When on the wing this bird utters now and again a metallic "*whit*" several times in rapid succession. In flight the rich black underneath the wing is remarkably conspicuous.

Six specimens were obtained.

22. ÆGIALITIS CANTIANA.

On February 25th we found a pair of Kentish Plovers which evidently had young, though we could not discover the nest. The female kept running in front of us, shamming a broken wing, and the male circled above our heads. On several flat portions of the shore-line we came across flocks of these birds.

The legs and feet of all the specimens we obtained are a pale slate-colour, instead of being black, as in the northern form, while the coloration of the plumage in the males is much brighter.

23. NUMENIUS PHÆOPUS.

24. TRINGOIDES HYPOLEUCUS.

On February 25th we observed the first Common Sandpiper and obtained it.

25. TOTANUS GLOTTIS.

A pair of Greenshanks appeared on the low-lying rocks near Praya on February 24th.

26. ARDEA CINEREA.

The Common Heron was only twice observed.

27. ARDEA GARZETTA.

The Little Egret does not breed on this island, but stragglers are seen now and again.

28. SULA FIBER.

There are no breeding-stations of this Gannet on this island, but two specimens were obtained.

29. PHAETHON ÆTHEREUS.

This Tropic-bird breeds in small numbers in the sea-cliffs to the north-east of Praya.

30. FREGATA AQUILA.

One day we observed two Frigate-birds going in the direction of Boavista, where there is a colony.

IV. *Brava.*

Brava is the smallest inhabited island of the whole group—about six miles long and four broad—and also, in proportion, the most thickly populated. Being very mountainous, volcanic in nature, and bare of wood-growth, there is hardly a stretch of tableland on the whole island; the coast is steep and rugged—no shore-line to speak of, except for a short length of low-lying rock near the harbour. Wherever the hillsides are climbable every inch of ground is cultivated, being either sown with maize or planted with yams, while in the valleys there are small sugar- and coffee-plantations, orange-groves, &c. The harbour is small, but ships of considerable size can anchor within a few yards of the steep volcanic-looking cliffs. Three miles inland from the harbour, Povação, the principal town, is situated. A fine paved road leads up to it, but is so steep in places that it becomes well-nigh impossible to climb it either on horseback or on donkeys. In the larger valleys monkeys abound, doing much havoc among the sugar-cane.

Lying to the eastward, about nine miles distant, and far exceeding Brava in height, is Fogo. Though almost beyond the range of visibility, on a very clear day it can be seen, a gigantic cone-shaped mass of volcanic rocks towering above the sea, looking, moreover, impressively grand when bathed in the purple-toned shadows of a sunset.

V. *List of the Birds of Brava.*

1. NEOPHRON PERCNOPTERUS.

The precincts of nearly every village are haunted by a pair or two of these Vultures. On March 11th a native boy brought us an adult male caught with a line and fish-hook.

2. MILVUS MIGRANS.

Not numerous. The majority haunt the vicinity of the harbour, but inland the dearth of small birds and lizards confines their numbers to a few stray individuals. A young bird, fully fledged, that had fallen from its nest on a rocky ledge overlooking the town, was brought to us on March 7th. One adult female was obtained.

3. FALCO NEGLECTUS.

Common everywhere.

4. STRIX INSULARIS.

A pair inhabit the belfry of the church in Povação, besides a few others in the rocky clefts of the heights around the town. We were able to procure only one specimen, a male. Its stomach contained 13 beetles (a kind of cockroach, very common in the houses).

5. CORVUS UMBRINUS.

Common everywhere.

6. SYLVIA CONSPICILLATA.

Only a few individuals observed, and these on the higher ground.

7. SYLVIA ATRICAPILLA.

We found the Blackcap in every valley, especially in the portions near the sea and where there was an abundance of orange-trees. The males were in full song. A pair used to sing very prettily in a small grove of orange- and banana-trees just outside our house. We shot more than six birds, but none were *Sylvia atricapilla gularis* (*cf.* p. 81).

8. CALAMOCICHLA BREVIPENNIS.

The growth of sugar-cane being very small, this species was by no means plentiful; the only two pairs we met with were in the small plantation outside our house in Povação.

One adult male was obtained.

9. CHELIDON URBICA.

On March 15th we obtained a female, the only one observed, evidently a migrant. It was flying up and down a steep valley close to the sea in company with a batch of *Cypselus unicolor*.

10. Passer salicicola.

Abundant. The adults were undergoing their spring moult, the plumage being in a very poor state.

Three specimens were obtained.

11. Passer jagoensis.

We came across this species in only one locality—the vicinity of a village just above Povação. The plumage was in fine condition, the moult having taken place.

12. Estrilda jagoensis Alexander.

A small flock or two among the coffee-plantations in Povação.

13. Cypselus unicolor.

Far more numerous than in Santiago. Many batches, varying in size, frequent the cliffs overlooking Povação and the entrance of steep valleys near the sea. Among these no other Swifts were observed. They nest in the crevices of the cliffs.

Two specimens were obtained.

14. Halcyon erythrogaster.

Only a few individuals met with, and these frequented the ravines near the harbour.

15. Coturnix communis.

There are few residents; all the birds met with were migratory. They frequented the maize-stubbles, and were often to be found feeding with chickens in the vicinity of the peasants' huts. Two specimens obtained.

16. Tringoides hypoleucus.

On March 5th two pairs were seen on the low-lying rocks near the harbour. On being flushed they uttered their well-known piping "*wheet, wheet, wheet.*"

17. Puffinus mariæ sp. nov.

On March 7th, while in the vicinity of the harbour, two boys brought us four specimens of this new Shearwater. They had obtained them from the holes of a rock out at sea and along the coast. We also noticed a few individuals, on our way to Rombos Islands, flying over the water; but, to our surprise, none inhabited the rocks of these islands. They appear to confine their habitat to the Brava coast. We met with this species again on Raza, where it is much more numerous. Both sexes are very similar in plumage to *P. kuhli*, but the crown and neck are much darker and of a deep sooty grey. The dimensions are also very much less, the bill especially being conspicuously shorter and much more slender.

P. mariæ.

	Total length. in.	Exposed culmen. in.	Depth of bill at nasal opening. in.	Wing. in.	Tail. in.	Tarsus. in.	Middle toe and claw. in.
Brava Island:							
Ad. ♂	17·4	1·7	0·22	11·8	4·9	1·8	2·3
Ad. ♀	17·3	1·62	0·2	11·5	4·9	1·75	2·35
Raza Island:							
Ad. ♂	17·4	1·7	0·28	12·1	4·7	1·75	2·4
Ad. ♀	17·0	1·7	0·22	11·8	4·8	1·75	2·35
			P. kuhli.				
Great Salvage Island:							
Ad. ♂ ab...	22·0	2·35	0·42	14·0	5·7	2·15	2·9
Ad. ♀ ,, ..	20·0	2·15	0·38	13·9	5·5	2·15	2·85

Four specimens were obtained on Brava.

18. Rissa tridactyla.

On March 4th and five following days a pair of Kittiwakes frequented the harbour, and were the only Gulls met with.

19. Sula fiber.

Owing to the proximity of their breeding-station on Rombos Islands, Gannets, singly or in pairs, were constantly to be seen hanging about the coast in search of food, while it was not uncommon to catch sight of flocks of from 15 to 20 beating over the smooth sea in a compact wedge-shaped body; sometimes skimming over the surface in graceful and steady flight, sometimes rising high in the air—mere specks in the sky—as they prepared to pass over the Brava hills in order to reach another part of the coast. The dexterity with which the species catches its prey must be seen to be appreciated. As soon as the fish is sighted, the bird, with closed wing, shoots into the water, the next moment to reappear floating on the surface busy tackling its prey and looking for an instant like a bird mortally wounded. Sometimes, however, a series of rapid twists and turns are indulged in prior to the dive, some 20 feet above the water. These movements may either result from the presence of a shoal of fish, the sight of which causes the bird to waver in its choice, or to a single fish having altered its course.

Besides being much smaller than the female, the coloration of the soft parts in the male is altogether brighter, while the remarkable patch of bluish slate-colour visible in front of the eye in the female is continued round it in the male. The webs also in the feet of the latter are of a greenish yellow.

VI. *The Rombos Islands.*

On March 13th we set out to explore the Rombos Islands, a small group three in number, uninhabited and devoid of water, lying about five miles to the north of Brava, and easily discernible from the mainland except on a very dull day: their sandy-brown appearance, unrelieved by any growth, affording a striking contrast to the deep blue of a southern sea. Our first attempt to reach this group failed. About halfway across we got into a heavy sea, which grew rapidly worse, our small boat, heavily laden, rushing into the big wave-troughs and striking the water with violent thuds. Then, to make matters worse, the rudder broke, and this became a signal for the whole crew to shout vociferously at each other; however, after three hours of stiff rowing, we regained the harbour, but not before we had been wetted to the skin. Our second attempt, two days later, proved successful, and we landed safely on the largest island, barely two square miles in extent. Its general character is flat, save for a lofty hill of a sugar-loaf shape that rises up about its centre, while creeks and small bays make indentations along the coast-line. In many places its surface is strewn with ironstone, while there are several creeks that hold nickel and copper.

A few wild goats inhabit the island, while the only birds we came across were a solitary Vulture and a Kestrel. Petrels used to breed here in numbers until they were driven away by the descendants of a pair of cats brought over by the goatherd.

As soon as morning came we left for the next island, about a mile distant. Just halfway there lies a rock of considerable extent. This is a breeding-station of the Gannets. On approaching it we could see these birds chequering the scarped sides in hundreds, and at the report of my gun they rose up from the recesses till it became difficult sometimes to behold the sky. Close to this barren rock, and almost in line with it, lies the remaining island of the group. It was upon this that our hopes were centred, since, according to the Brava fishermen, a large colony of Petrels existed there. On the Brava side this island culminates in a rocky headland of considerable altitude, serving as a screen to hide from view the low, flat, gravelly land directly behind it, in length about two miles, and one in width at its broadest part. This portion was literally honeycombed by Petrels, causing the ground underfoot to give way at nearly every tread. The first species discovered was the elegant White-breasted Petrel (*Pelagodroma marina*). We found it breeding in considerable numbers, the eggs being in an advanced stage of incubation. The nest-holes had an average depth of 8 inches and a length of 2 feet. We are inclined to think that the female does the entire incubation, since every bird taken off its egg proved to be of that sex. The only three males obtained were in company with females and were not incubating.

In unearthing these Petrels several managed to escape us. They ran along the ground in a dazed condition, and before we could rescue them they were pounced upon and carried off by Kites.

In close proximity to *Pelagodroma marina* was a colony of

Oceanodroma cryptoleucura, the burrows of which, however, ran further into the ground, besides being more tortuous. Many had young, while most of the eggs were well incubated. Further up the island and towards the rocky headland, we discovered *Puffinus assimilis* breeding, not only in holes, but many beneath rocky boulders and in small clefts and overhanging rocks, while in one instance a bird had made its nest beneath the boards of a tumble-down hut. In this last case the nest contained a quantity of dry grass. We next turned our attention to the rocky headland itself, where the steep sides had been here and there made hoary by the hundreds of Gannets that peopled them. On the long narrow ledges of rock facing the sea countless numbers of these birds were standing in serried ranks, bolt upright. Wherever a portion of this rock possessed a superficial covering of earth they nested in dozens, hardly 2 feet intervening between the nests. These consisted of a shallow depression made by the bird itself, and further bordered by a fringe of small pebbles and flakes of rock. Both sexes share in the incubation, and we nearly always found the male on the nest throughout the day. Incubation was well forward, nestlings being in every hollow, but only one in each; invariably the second egg of the clutches had turned out wrong. There were, nevertheless, many fresh eggs, but sad havoc is constantly made among them by the fishermen whenever they visit the island. The birds, too, do not escape molestation, often being stoned on their nests and killed for eating purposes. The Tropic-bird (*Phaethon æthereus*) suffers in the same way.

The Gannet, however, is not the only inhabitant of this headland. We found *Phaethon æthereus* breeding in small numbers in suitable holes and clefts among different portions of the rocks. On that particular day, when the sea wore but a darker tone than the sky, it was a pretty sight to watch these birds taking wide graceful circuits from their nest-holes out across the sea, the glossy white of their plumage at once striking the eye, while their two long rectrices, like slender pennons, streamed out behind. Both sexes incubate, and while the female is sitting the male will often sit alongside to keep her company. Towards sundown these birds congregated over some favourite spot and indulged in nuptial flights, at times circling high in the air and uttering the whole while a series of harsh screeching notes that bore a striking resemblance to those of the Common Tern during the breeding-season.

When the night shadows began to brood vaguely over this lone waste of an island, the Petrels came abroad and filled the still air with their weird cries. They mustered strongly, flitting to and fro over the low-lying ground in hundreds. Among the number the most noticeable was *Puffinus assimilis*, as it glided like some large soft-winged bat over the small sandhills, and even sometimes brushing past our camp-fire, for ever uttering its weird cry "*karki-karrou, karki-karrou, karki-karrou*," while amid these a similar but softer one would often strike fitfully upon the ear, coming from *Oceanodroma cryptoleucura* as it flitted over the island, crying to its white-breasted relative "I'm a nigger, I'm a nigger, I'm a nigger." And the White-breasted Petrel (*Pelagodroma marina*) replied by uttering grating notes like those of a pair of rusty springs set in motion.

As the night wore on, the cries of these Petrels died away, only to recommence, however, with redoubled energy just as dawn arrived, and then, as soon as the dusky light waxed clear, these voices ceased as suddenly as they had commenced, indicating that their owners had crept noiselessly into their dark retreats, there to remain till the heat had once more abated.

VII. *List of Birds of the Rombos Islands.*

1. Neophron percnopterus.
2. Milvus migrans.
3. Tinnunculus neglectus.
4. Passer jagoensis.
5. Strepsilas interpres.

I shot a single bird on a stretch of low-lying rock. I was in a moulting condition, the summer plumage just beginning to show.

6. Oceanodroma cryptoleucura.

Specimens obtained: six males, four females; four young in down. Seven eggs.

7. Pelagodroma marina.

Specimens obtained: three males, eleven females. Nine eggs.

8. Puffinus assimilis (Gould).

Puffinus assimilis Ogilvie Grant, Ibis, 1896, p. 50; Salvin, Cat. B. Brit. Mus. xxv. p. 384 (1896).

The small Shearwaters belonging to this section are very puzzling. All our examples, though at first sight most nearly allied to typical specimens of *P. obscurus* from the Pelew Islands and elsewhere, have the outer half of the inner webs of the primary quills distinctly paler than the part next to the shaft, and shading into white towards the base. In this respect they approach typical *P. assimilis* from Australia, which has the outer half of the inner webs of the primary quills pure white. Since all the examples obtained by Mr. Ogilvie Grant at Madeira, Deserta Grande, Porto Santo, and Great Salvage belong to the latter form, we should certainly have expected to find typical *P. assimilis* at the Cape Verde Islands. The under tail-coverts of these Shearwaters vary much in colour. In *P. obscurus* they are largely mixed with dark sooty-brown; in typical *P. assimilis* they are entirely white; while in our examples they are mostly dark smoky-brown, only the shorter ones being mixed with white, in this respect resembling the birds from Madeira and the Salvage Islands, which are otherwise typical *P. assimilis*. Again, in size of bill and length of wing the Rombos Shearwaters agree with *P. assimilis*, so that, in spite of the dusky inner webs of the primaries and the dark colour of the under tail-coverts, it is advisable to refer them to that species, though they seem to be somewhat intermediate.

	Total Length. in.	Exposed Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
P. obscurus (New Zealand)......	12·0	1·2	8·1	3·1	1·55
P. assimilis (West Australia)....	10·5	1·0	7·4	2·7	1·5
P. assimilis (Cape Verde Islands)..	12·0	1·0	7·3	2·95	1·35

We obtained on Rombos nine males, six females, and five eggs of this Shearwater. The average measurements in the flesh were: 12·2, 11·8. The skin measures about 10·4.

Soft parts:—Bill slate-blue; iris dark brown; legs and feet pale blue, outer foot black; webs pale yellow; claws brown.

9. SULA FIBER.

Eggs obtained, four clutches.

10. PHAETHON ÆTHEREUS.

Four specimens obtained, one young in down. Three eggs.

VIII. *List of the Birds of São Vicente.*

1. NEOPHRON PERCNOPTERUS.

About the first bird one sees on arriving in the harbour.

2. MILVUS MIGRANS.

3. PANDION HALIAËTUS.

Breeds on the island.

4. CORVUS UMBRINUS.

5. SYLVIA CONSPICILLATA.

On April 12th we found numbers of nests of this bird containing eggs, and some with young, in a clump of lavender-bushes close to the shore of the harbour. Some of the nests were fully seven feet from the ground. The building materials used were fine dead grass and small twigs of the lavender-bush, the nests being stoutly and compactly built. Each nest contained either four or five eggs, but the former complement was more general.

6. PASSER JAGOENSIS.

7. ESTRILDA JAGOENSIS.

8. COTURNIX COMMUNIS.

9. NUMIDA MELEAGRIS.

Breeds in August.

10. ÆGIALITIS CANTIANA.

On April 5th we discovered the young of this Plover on some waste ground at the mouth of the harbour. The nest was nothing more than a shallow depression, fringed with small stones and flakes of rock.

11. CALIDRIS ARENARIA.

Several birds put in an appearance along the shore of the harbour on April 4th.

12. ARDEA PURPUREA.

On April 4th we obtained a fine specimen near a brackish pool close to the harbour.

13. ARDEA CINEREA.

14. ARDEA GARZETTA.

Stragglers now and again seen.

15. SULA FIBER.

IX. *São Nicolau.*

From São Vicente we proceeded on April 14th to São Nicolau. In its general character and growth in the valleys, it closely resembles Santiago; the hillsides are, however, more cultivated, being devoted to the growing of yams, and stepped with stones in order to ensure better irrigation. We occupied a house in a very fertile valley just above Stancha, and this we made our headquarters from which to work the island. Owing to the abundance of fish, and the rocky nature of many portions of its shore-line, São Nicolau is a favourite resort of the Osprey. This species does not occur round the southernmost islands of the group, and it is only when lat. 16° is reached that the presence of the bird becomes evident. On April 20th, while exploring the northern side of the narrow portion of the island, we discovered several eyries. Long before reaching the locality, we caught sight of a fine bird beating along an open part of the coast. It passed and repassed us several times as we wound our way along the shore-line, the extent of its beat appearing to be about a mile.

From the main path that winds through a range of precipitous hills, we struck off and took a small goat-track that skirts the sea, in some places so close to the edge of the cliffs that one false step would involve the fall of both donkey and rider down a height of more than 40 feet. This route, although tortuous and most difficult, enabled us to observe the bird-life which existed on the low stretch of black rocks fringing the cliffs. The first bird was a Little Egret (*Ardea garzetta*), which kept ambling along the rough slabs of rocks with head bent low in search of food, its white body dipping and rising with its uneven gait, and at times completely veiled by spray. On a close approach, the bird stood stock-still, craned up its head till neck, body, and legs were in one straight line, and a moment later made out to sea, with a flapping flight, keeping all the while close to the surface.

We next disturbed a Whimbrel and a small party of Turnstones, three of which were peacefully dozing on a piece of rock, while the fourth stood almost knee-deep in a shallow pool. At the sound of our footsteps they rose up, uttering their pretty trilling notes, and the Whimbrel followed them closely; its persistent cry, of seven whistles only, striking a deeper key. One of the Turnstones had almost assumed its summer plumage. Another mile of difficult travelling brought us to open ground. Hitherto the range of hills on our right had hugged the shore closely, but at this point they receded and left a wide open tract. Just before we emerged upon this open land, a small conical rock, rising up from the sea and about 20 yards from the shore, arrested our attention. A more careful examination discovered a fine adult Cormorant (*Phalacrocorax lucidus*) ensconced in one of its hollows. He was keeping watch over his consort, who sat on her nest just above his head. Pushing forward, a cluster of native huts shortly came in sight, nestling at the foot of the hill-range.

Here the cries of the Ospreys told us that we could not be far from their eyries. Their plaintive cries, capable of being heard at a considerable distance, often deceived us as to their actual whereabouts. Here, over this open plain, studded thickly with brown fragments of volcanic stone, several Kites wheeled in a lazy fashion, their distinct shadows playing round a batch of Ravens (*Corvus umbrinus*) that strutted to and fro in a contented manner, busy catching the unwary locust before it could bounce to another stone. Amid this black assemblage, Vultures crouched upon the largest boulders, looking pictures of laziness.

Presently we overtook a native boy, who conducted us to the foot of a precipitous hill about ninety feet in height. Towards its inaccessible summit the surface is seared and greatly broken. On two of the ledges, some thirty feet apart, were a couple of Osprey's nests that looked from where we stood like huge balls of coarse twine. Now and again, faint cries of the occupants within would reach our ears, and, looking seaward, we saw the male bird pursuing a straight course some twenty feet above the water, beyond the breakers. Suddenly he desisted in his flight, and for a few brief moments hung poised above the water; then his head was lowered, the legs dropped ready to seize and clasp the prey, but the next moment they were sharply drawn up again, and the bird flew on in search of better food. Another opportunity soon came, and of this the bird took full advantage. Turning obliquely from his course, he sped downwards and was hidden for the instant in a cloud of spray. Then, with a flap, he freed himself from the water, mounted above the cliffs, and flew straight to his mate, who sat upon a boulder of rock patiently awaiting his return. Possessed of the food, she then commenced to wing her way upwards to her nest. Her movements were full of symmetry and grace; no beat of pinions was visible as she ascended higher and higher in spiral circles. On nearing her offspring, a string of plaintive calls burst from her, calls that seemed to be saying "I'm coming, I'm coming, I'm coming." In the meantime the male had once more returned to the shore-line, where his form soon became swallowed up in the bright haze, while the next intimation we had of his return was the sunlight playing upon his breast. This system of feeding the young was always adopted; that is to say, while one bird was on the war-path, the other remained in the vicinity of the nest, ready to convey the food to the nestlings.

The fish chiefly taken appeared to be the garoupa (*Serranus cabrilla*), which abounds round the São Nicolau coast. From the boy we learnt that there were several eyries in the vicinity, and that the pairs had resorted to them for many years in succession.

During our stay in the locality we obtained two magnificent old birds, besides three immature specimens.

X. *List of the Birds of São Nicolau.*

1. NEOPHRON PERCNOPTERUS.

A large company of this species frequents Tarrafal Bay, where whaling is carried on. They feed on the blubber.

2. MILVUS MIGRANS.

Three specimens obtained.

3. FALCO NEGLECTUS.

Common.

4. PANDION HALIAËTUS.

Five specimens obtained.

5. STRIX INSULARIS.

We constantly heard the screech of this Owl at night.

6. CORVUS UMBRINUS.

Plentiful.

7. SYLVIA CONSPICILLATA.

8. SYLVIA ATRICAPILLA.

Five specimens obtained.

9. CALAMOCICHLA BREVIPENNIS.

Fairly numerous, frequenting chiefly the coffee plantations. Nine specimens obtained.

10. HIRUNDO RUSTICA.

On April 15, as we passed through Stancha, we saw a

Swallow flying up and down one of the narrow streets, and on the 26th another one among a party of Swifts (*Cypselus unicolor*).

11. Passer salicicola.

12. Passer jagoensis.

13. Cypselus unicolor.

Breeds among rocky portions of the hills. Two specimens obtained.

14. Numida meleagris.

There are several large flocks on the island, and these frequent the hills during the day, but come down towards the evening and the early morning to feed on the maize-plots, where they do a considerable amount of damage.

Each flock has a leader, which is the first to show himself on some commanding point overlooking the feeding-ground to see whether all is safe, after which he utters his well-known cry, a signal for the others to come and invade the lower ground ; and so strict a look-out does he keep over them while feeding that it is difficult to approach within five hundred yards of the flock.

15. Numenius phæopus.

16. Ardea garzetta.

The only breeding-station is in Tarrafal Bay, where we met with nine pairs of birds. On April 24th laying had not commenced, but one of the nests was nearly completed, being composed of twigs of *Acacia albida* and lined with dried grass and goats'-hair. The nests were either built on ledges in the cliffs about 20 feet above the rocks or in small cavern-like recesses. Out of this colony we obtained seven specimens. In different individuals the colour of the legs and feet varied considerably. Some had those parts absolutely black (*Ardea nigripes* Temm.), and in others they were spotted with yellow (*Ardea garzetta*), while the feet of one individual were pale greenish-yellow.

There can be no doubt that all the Egrets we obtained belong to one and the same species, and that the colour of the legs and feet is due to age and is of no value as a specific character.

16. Phalacrocorax lucidus.

One adult female specimen obtained.

17. Sula fiber.

18. Strepsilas interpres.

Observed on São Nicolau.

XI. *The Desertas.*

On April 28th we left São Nicolau for the Desertas, in a schooner, a fine old American pilot-boat of nearly eighty tons, which we had chartered at São Vicente.

The small islands known as the Desertas are three in number: Raza, Branca, and Santa Luzia. The two former, devoid of water, are uninhabited; no hostile influence coming to mar the peace of the many sea-birds that have made them their home, save perhaps at random times when fisherfolk land and employ the day in catching fish.

Raza was the first island we visited, and all the time we remained on it the schooner was obliged to beat backwards and forwards, there being no anchorage. Landing is effected with difficulty (at times being wellnigh impossible), and only then on the south side, upon a broad band of low flat rock. This island possesses an area of about three square miles, the larger portion of which is flat, strewn, however, with stones of all sizes, the boulders in many instances being undermined by Shearwaters; but here and there, amid this expanse of stones, there are patches of smooth ground, toned with fine dead grass, and with a creeping plant bearing a prickly fruit (*Tribulus cistoides*). On the north side, hills descend abruptly to the sea; while the low flat ground on the south is terminated by an almost perpendicular face of rock, at the most thirty feet in height, and rent with wide fissures and jagged scars. These hollows and caverns are the home of the Tropic-bird (*Phaethon æthereus*). The entrances to these snug resorts were well whitened, and many of the owners were abroad. With their two long tail-feathers streaming out behind them, they kept speeding out across the sea.

The noise of our landing reached a magnificent flock of Little Egrets, which speckled the rocks, some five hundred, on our left. They all took to flight, their pure white plumage making a striking contrast to the black expanse of rocks and then to the liquid blue of the sea. A party of Turnstones were also at the same spot, and although they assumed close order, they did not follow the example of the Egrets. And then, on our left, we caught a glimpse of a Gannet colony. Already a general movement seaward had taken place. Not a few, however, remained on the ledges of rock, looking very soldier-like and seeming quite indifferent to our near approach. Some were immature birds, with the entire underparts speckled with chocolate-brown. Out at sea were several Tropic-birds which out-distanced their companions and disappeared from sight. They went straight to their rocky homes that held their youngsters, and, with wings sharply beating, hovered round their entrances; the next moment to retreat, and then to return and make further futile attempts, as if the gaining of their nest-holes was fraught with much uncertainty.

Here and there the continuity of the cliffs is broken by rocky slopes that lead up to the higher ground, and, as we ascended one of these natural staircases, wheezy groans came from Shearwaters (*Puffinus mariæ*), ensconced in rocky cavities on our right and left, and on looking into these holes we could just discern them sitting together in couples. We next observed a number of Cocteau's skinks basking on flat portions of rocks. One obtained measured 17 inches. These skinks live in the clefts of rock and often in company with the Shearwaters.

On reaching the level ground we discovered a species of Desert-Lark (*Spizocorys*) in flocks. These birds are so tame that we could have knocked many over with sticks. On taking to flight they utter notes very similar to those of our Skylark when on the wing. Among a flock we had no difficulty in discerning the sexes; since, on following a

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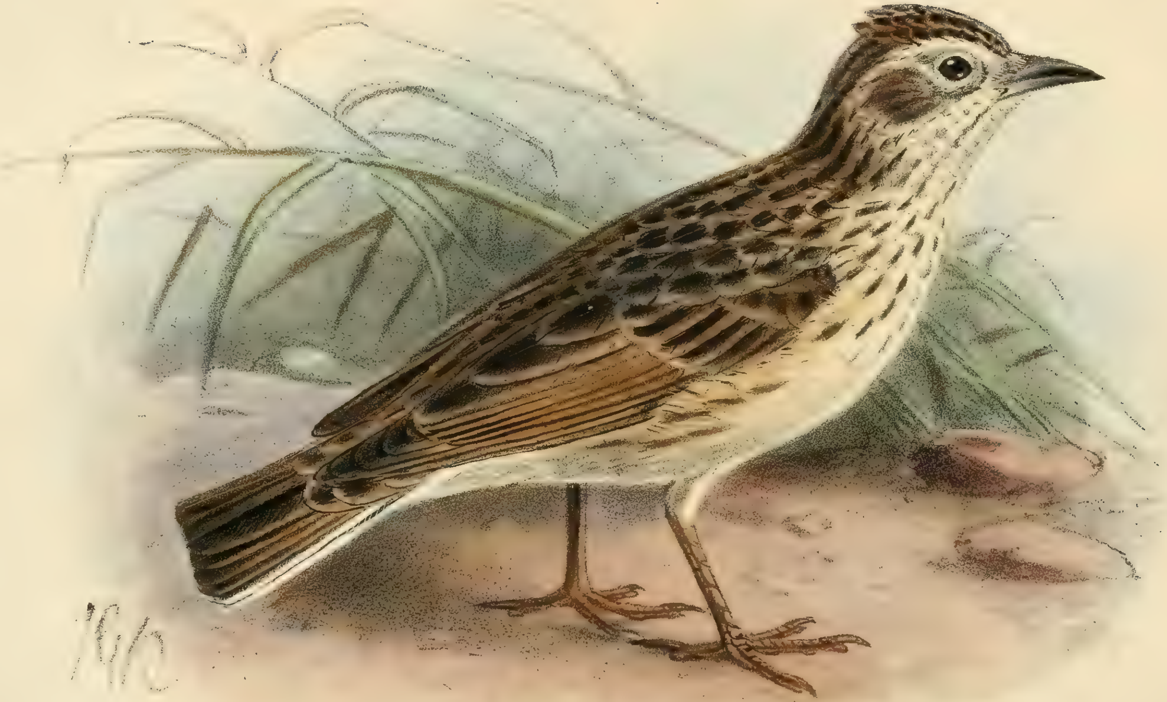

J.G.Keulemans del et lith

SPIZOCORYS RAZÆ.

Mintern Bros imp.

female, the male bird with its crest-feathers erect immediately appeared on the scene and ran close by her. Breeding was almost over, the majority of the birds being in a moulting condition. We, however, found a nest containing one young bird. The nest was composed of dry grass, and built in a depression underneath a large stone. Their chief food seemed to be grass-seed, but now and again we found flocks picking up a livelihood on the stretch of black rocks close to the sea.

XII. *List of the Birds of Raza.*

1. FALCO NEGLECTUS.

One specimen obtained.

2. PANDION HALIAËTUS.

3. CORVUS UMBRINUS.

4. PASSER JAGOENSIS.

These Sparrows nest in holes in the cliffs.

5. SPIZOCORYS RAZÆ sp. nov. (Plate III.)

Adult male and female. General colour above pale sandy brown; each feather of the crown and upper parts dark brown, widely margined with pale isabelline. The feathers of the crown lengthened into a short full crest; lores whitish; cheeks whitish spotted with brown, and ear-coverts brownish white with darker middles; chin, throat, and a half collar round the sides of the neck white; chest white, tinged with sandy, each feather with a triangular dark brown spot at the end of the shaft; rest of the underparts white, brownish on the sides and flanks, where the feathers have dark shaft-stripes. Quills and tail-feathers dark brown, margined and tipped with pale sandy white. Bill blackish horn, whitish towards the base of the lower mandible; iris dark hazel; legs and feet brownish flesh-colour; claws blackish horn.

Adult male. Total length 5·84 inches, culmen 0·65, wing 3·2, tail 2·05, tarsus 0·85.

Adult female. Total length 5·34 inches, culmen 0·6, wing 3·0, tail 1·75, tarsus 0·8.

All the adults, except one female in full moult, clearly show the bastard primary; in the immature bird this feather is distinctly longer than in the adult.

Immature male in first plumage. General colour above pale rufous-buff; most of the feathers of the crown, back, and wing-coverts have a brownish-black spot at their extremities, otherwise the plumage of the upper parts is much like that of the adults; the ear-coverts are dull rufous-brown, and the chest is distinctly washed with rufous-buff.

6. STREPSILAS INTERPRES.

7. PUFFINUS MARIÆ Alexander (see above, p. 92).

Raza and Branca may be looked upon as the chief habitat of this species. Before landing on Raza we saw a large flock in a wedge-shaped formation sleeping on the water. They frequent chiefly the hollows in the cliffs, but we found some on the higher ground in holes made by the birds themselves underneath large boulders, where the entrances were strewn with small stones and flakes of rock, evidently brought there by the birds, since the soil is of a fine nature.

These Shearwaters appear to prey upon smaller birds, for in many instances the vicinity of their holes was strewn with bones and feathers. While on Brava, we constantly heard this bird at night among the hills; its weird cry, only enhanced by the silence, is like the whistling cry of the Wigeon. When fishermen land on Raza, they capture many of these birds for eating purposes, sometimes taking away almost a boat-load to their homes.

Twelve specimens were obtained.

8. ARDEA GARZETTA.

Observed, but there is no breeding-station on the island.

9. PHALACROCORAX LUCIDUS.

10. SULA FIBER.

Five clutches of eggs obtained.

11. Phaethon æthereus.

In the immature bird the plumage of the upper parts is barred with black as in the adult, but in a lesser degree. The beak is a greenish-horn colour, and the webs of the feet are lemon-yellow. The two long rectrices are absent.

XIII. *Branca, Santa Luzia, Sal, and Boavista.*

Branca is nothing more than a small irregular chain of lofty, craggy hills, rising up from the sea with extraordinary abruptness on its north side, while about halfway down its height this chain has almost a glacis-like slope down to the sea. This slope is honeycombed by Petrels. We found the White-breasted Petrel (*Pelagodroma marina*), *Puffinus assimilis,* and *Oceanodroma cryptoleucura* breeding, all having young. *Puffinus mariæ* also inhabits the island. From several Petrels-holes we pulled out Cocteau's skinks, but, there being few of these lizards, the Petrels have made the island their home. There is not a doubt that Raza was also a breeding-place before the skinks became numerous there, for we found many disused Petrel's-holes on that island. Out at sea we saw numbers of *Puffinus assimilis,* and at intervals one of them would disappear and swim after some small fish just beneath the surface of the water, after the manner of a Penguin.

While on Branca we obtained specimens of *Pelagodroma marina, Oceanodroma cryptoleucura, Puffinus assimilis,* and the young of all three, also five eggs of the second species named.

On May 5th we landed on Santa Luzia, an island of wild goats. A small flock of *Cursorius gallicus,* a few Whimbrels, a Vulture or two, and a flock of Sanderlings represented the bird-life of the island.

We left Santa Luzia on May 7th and sailed for Sal, a voyage which took two days, since the wind was against us the whole time. Sal possesses little or no coast, but a low shore-line instead. The greater portion of the island is flat, with a loose stony soil, sandy in places and devoid of all tree-growth, while towards the interior it is bosomed with brown-looking semiglobular hills. Of the whole group this island is the poorest in the way of bird-life, and two days proved ample for its exploration. Passaro Island, lying to the north of Mordeira Bay, is a nesting-place of Gannets (*Sula fiber*). A number of *Ægialitis cantiana* frequent the salt-pans around Santa Maria, in the vicinity of which they breed. On the flat stony portions we found *Ammomanes cinctura* in considerable numbers and two nests, each containing one young one. Besides these two species and the Gannets, a flock of Sanderlings in summer plumage, a few pairs of Cream-coloured Coursers, several Whimbrels, and a solitary Osprey were all the birds we met with.

The next island we visited was Boavista, which is nothing more than a sandy desert, with the exception of a few stone-strewn levels and several hills of considerable altitude. This desert of silver-white sand abounds in shallow hollows scooped out by the wind, and sand-dunes, the sides of which near the shore-line have been fashioned by the sea into high embankments, while in many places along the entire coast long narrow tongues of stony ground shoot out into the sea, making deep low-coasted bays. Clusters of tall gaunt-looking coconut-trees grow in many of the sand-dells, and about their trunks nestle banana plants with their large leaves torn into a thousand shreds by the wind, while on the flat expanses are clumps of lavender-bushes and scattered acacia-trees, stunted and ill-grown.

On May 13th we made our first attempt to approach the Flamingoes, which frequent a series of brackish pools close to the sea and not far from the village of Estenço Velho. The road thither being anything but good, we made use of our schooner to get there. Towards the evening we landed and were met by a guide, who undertook to take us to the locality. On the way we happened to look seaward, and there, to our great satisfaction, caught sight of a party of Flamingoes coming towards the brackish pools; not in any wedge-shaped formation, but in a long, even line. They settled in open order, their backs towards the sea, preened their feathers, and then commenced to feed, without changing their position. Our guide mumbled a prayer in his hat; a minute later, however, they saw us, and then a slow march towards a common base, where their leader stood erect, was executed, a manœuvre soon followed by a general uprising amid goose-like croaks. In the middle distance the white of their plumage disappeared, leaving visible only the rose-coloured bands on their wings, like a long streak of feathery cloud at sunset. Soon their white plumage showed out again as they steered once more towards the sandy coast, where a general settling took place some two miles ahead of us. / After this we repaired to the village, where a house was placed at our disposal for the night.

XIV. *List of the Birds of Boavista.*

1. NEOPHRON PERCNOPTERUS.

2. BUTEO VULGARIS.

The only specimen we procured was an immature male. Both this one and the female obtained on Santiago are small.

Adult female (Santiago): wing 14·9 inches, length 20·4. *Immature male* (Boavista): wing 13·5 inches, length 20·43. Measured in the flesh.

3. MILVUS MIGRANS.

4. FALCO NEGLECTUS.

5. PANDION HALIAËTUS.

Breeds sparingly in suitable localities. On the small island opposite Sal Rei we found a nest of this bird built on a rock at sea. It was an enormous structure, bits of shell and seaweed forming the lining.

6. CORVUS UMBRINUS.

Very numerous, coming together in large flocks every evening and blackening with their bodies the sides of the sandhills, where they roost for the night.

7. SYLVIA CONSPICILLATA.

8. PASSER JAGOENSIS.

9. ALÆMON ALAUDIPES (Desf.).

This species frequents the sandy portion of the island near the sea. Throughout the day we found it either singly or in pairs, but, as a rule, the males kept to themselves, while each female was invariably accompanied by a single immature bird, a fact from which it appears that a bird of this species has no more than a single young one. This also seems to be a general case with *Ammomanes cinctura* and *Spizocorys razæ*. Hence we may reasonably infer that all Desert-Larks lay no more than a single egg.

Alæmon alaudipes will sometimes perch on trees, while its manner on the ground is very Thrush-like. It runs in front of its pursuer, with head bent low, now and again stopping, and then raising its head as if to listen. Its flight is slow and clumsy, and rather Jay-like in action, while the broad white bars on the wings are very conspicuous as the bird travels forward, only to alight, however, a few yards ahead of the spectator. Towards sundown individuals come together from far and near and resort to a favourite spot for an evening meal.

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Ad. ♂ (Boavista)	9·46	1·1	4·8	3·5	1·35
	9·33	1·25	5·0	3·5	1·35
Ad. ♀ "	8·33	1·25	4·9	3·5	1·4
	8·4	1·12	4·55	3·1	1·3

In life we had no difficulty in discerning the sexes, the females looking always the smallest. The food chiefly consists of locusts. Breeding takes place in September. We obtained twelve specimens.

10. AMMOMANES CINCTURA.

Plentiful; three specimens obtained.

11. PYRRHULAUDA NIGRICEPS.

More numerous than on any other island. They used to get up close to our feet in clouds and fly forward a few feet above the ground.

12. Coturnix communis.

We never obtained an example, but on several occasions came across places where birds of this species had been dusting themselves.

13. Cursorius gallicus.

Well distributed. We met with flocks numbering often over a score on the higher levels, and these consisted chiefly of immature birds, led and watched over, however, by one or two old birds that gave warning to them on the approach of danger. The majority of adult birds were by themselves and in pairs. Towards evening these flocks resorted to plots of ground overgrown with sweet potatoes and maize and enclosed by stone walls.

These birds afforded excellent shooting, and were by no means bad eating. Fifteen specimens were obtained.

14. Squatarola helvetica.

On May 9th we flushed a pair of Grey Plovers from a piece of low-lying rock; they were in full summer-plumage.

15. Strepsilas interpres.

16. Ægialitis cantiana.

17. Numenius arquatus.

On May 13th, while skirting the coast, the well-known whistling cries of a pair of Curlews attracted our attention.

18. Numenius phæopus.

19. Calidris arenaria.

In flocks along the sandy portion of the shore-line.

20. Ardea garzetta.

A colony of fifteen pairs of Little Egrets exists about three miles north of Sal Rei along the coast, the nests being placed on ledges of rock facing the sea, and ranging from fifteen to twenty feet up. On the 10th of May breeding had only just commenced, but one nest out of a number ready contained two eggs. The nests were rough structures, composed entirely of the thorny twigs of the acacia.

21. Phalacrocorax lucidus.

22. Sula fiber.

23. Fregata aquila.

This species nests on the rocks of the small island opposite Sal Rei, which is the only place in the whole group where it breeds. Generally flying at a great altitude, the Frigate-bird seldom approaches within shot; on one occasion, however, we obtained a bird as it was engaged in chasing several Gannets and attempting to rob them of their prey.

24. Phœnicopterus roseus.

A small colony breeds in the vicinity of some brackish pools close to the sea and in the neighbourhood of Estenço Velho. Breeding takes place about the middle of June, and the eggs are laid on the bare ground. Two adult males were obtained.

25. Marmaronetta angustirostris.

The Marbled Duck breeds in the vicinity of many of the brackish pools on the island. We obtained three specimens, two males and a female. In the latter the legs and feet were of a distinctly greenish colour, instead of the dark brown of those of the males.

On May 21st we put into Tarrafal Bay, the principal harbour of Santo Antão. The island is very mountainous and possesses extremely fertile valleys. São Vicente depends entirely upon it for produce. As regards its bird-life the island calls for no special mention, since the resident species are the same as those found on São Nicolau.

XV. *Complete List of the Birds of the Cape Verde Islands.*

[The species marked with an asterisk were not observed by Dohrn.]

Resident Species.

1. Neophron percnopterus (Linn.).

Neophron percnopterus Dohrn, J. f. O. 1871, p. 3; Sharpe, Cat. B. Brit. Mus. i. p. 17 (1874).

*2. Buteo vulgaris (Leach).
Buteo vulgaris Sharpe, Cat. B. Brit. Mus. i. p. 186 (1874).

3. Milvus migrans (Bodd.).
Milvus regalis Dohrn, J. f. O. i. 1871, p. 3.
Milvus korschun Sharpe, Cat. B. Brit. Mus. p. 322 (1874).

4. Falco neglectus Schleg.
Falco tinnunculus Dohrn, J. f. O. 1871, p. 4.
Falco neglectus Schleg. Mus. P.B., Acc. p. 43 (1873).
Cerchneis neglectus Sharpe, Cat. B. Brit. Mus. i. p. 428 (1874).

5. Pandion haliaëtus (Linn.).
Pandion haliaëtus Dohrn, J. f. O. 1871, p. 3; Sharpe, Cat. B. Brit. Mus. i. p. 449 (1874).

*6. Strix insularis Pelz.
Strix insularis Pelz. J. f. O. 1872, p. 23.

7. Corvus umbrinus Sund.
Corvus corone Dohrn, J. f. O. 1871, p. 5.

8. Sylvia conspicillata Temm.
Sylvia conspicillata Dohrn, J. f. O. 1871, p. 5; Seebohm, Cat. B. Brit. Mus. v. p. 22 (1881).

*9. Sylvia atricapilla gularis subsp. nov.

10. Calamocichla brevipennis (Dohrn).
Calamoherpe brevipennis Dohrn, J. f. O. 1871, p. 4.
Calamocichla brevipennis Sharpe, Cat. B. Brit. Mus. vii. p. 132 (1883).

11. Passer salicicola Vieill.
Passer salicarius Dohrn, J. f. O. 1871, p. 6.
Passer hispaniolensis Sharpe, Cat. B. Brit. Mus. xii. p. 317 (1888).

12. Passer jagoensis Gould.
Passer jagoensis Dohrn, J. f. O. 1871, p. 6; Sharpe, Cat. B. Brit. Mus. xii. p. 323 (1888).

*13. Estrilda jagoensis sp. nov.
Estrelda cinerea Dohrn, J. f. O. 1871, p. 7.

*14. ALÆMON ALAUDIPES (Desf.).

Alæmon alaudipes Sharpe, Cat. B. Brit. Mus. xiii. p. 518 (1890).

15. AMMOMANES CINCTURA (Gould).

Alauda cinctura Dohrn, J. f. O. 1871, p. 5.

Ammomanes cinctura Sharpe, Cat. B. Brit. Mus. xiii. p. 644 (1890).

*16. SPIZOCORYS RAZÆ sp. nov.

17. PYRRHULAUDA NIGRICEPS Gould.

Pyrrhulauda nigriceps Gould, Voy. 'Beagle,' Birds, p. 87 (1841); Sharpe, Cat. B. Brit. Mus. xiii. p. 650, footnote (1890).

18. CYPSELUS UNICOLOR Jard.

Micropus unicolor Hartert, Cat. B. Brit Mus. xvi. p. 448 (1892).

19. HALCYON ERYTHROGASTER Gould.

Halcyon rufiventris Dohrn, J. f. O. 1871, p. 4.

Halcyon erythrogaster Sharpe, Cat. B. Brit. Mus. xvii. p. 234 (1892).

20. COLUMBA LIVIA (Bonn.).

Columba livia Dohrn, J. f. O. 1871, p. 7; Salvad. Cat. B. Brit. Mus. xxi. p. 252 (1893).

*21. COTURNIX CAPENSIS (Linn.).

Coturnix capensis Grant, Cat. B. Brit. Mus. xxii. p. 231 (1893).

22. NUMIDA MELEAGRIS (Linn.).

Numida meleagris Dohrn, J. f. O. 1871, p. 7; Grant, Cat. B. Brit. Mus. xxii. p. 375 (1893).

*23. CURSORIUS GALLICUS (Gmel.).

Cursorius gallicus Sharpe, Cat. B. Brit. Mus. xxiv. p. 34 (1896).

*24. ÆGIALITIS CANTIANA (Lath.).

Ægialitis alexandrina Sharpe, Cat. B. Brit. Mus. xxiv. p. 275 (1896).

*25. OCEANODROMA CRYPTOLEUCURA (Ridgw.).

Oceanodroma cryptoleucura Ogilvie Grant, Ibis, 1896, p. 53; Salvin, Cat. B. Brit. Mus. xxv. p. 350 (1896).

*26. PELAGODROMA MARINA (Lath.).

Pelagodroma marina Ogilvie Grant, Ibis, 1896, p. 51; Salvin, Cat. B. Brit. Mus. xxv. p. 362 (1896).

*27. PUFFINUS MARIÆ sp. nov.

*28. PUFFINUS ASSIMILIS Gould.

Puffinus assimilis Ogilvie Grant, Ibis, 1896, p. 50; Salvin, Cat. B. Brit. Mus. xxv. p. 384 (1896).

29. ARDEA GARZETTA Linn.

Ardea garzetta Dohrn, J. f. O. 1871, p. 8.

*30. PHALACROCORAX LUCIDUS (Licht.).

Phalacrocorax melanogaster Hartl. Orn. W.-Afr. p. 260 (1857).

31. SULA FIBER (Linn.).

Dysporus sula Dohrn, J. f. O. 1871, p. 8.

32. PHAETHON ÆTHEREUS (Linn.).

Phaethon æthereus Dohrn, J. f. O. 1871, p. 8.

*33. FREGATA AQUILA (Linn.).

Fregata aquila Hartl. Orn. W.-Afr. p. 260 (1857).

34. PHŒNICOPTERUS ROSEUS Pall.

Phœnicopterus antiquorum Dohrn, J. f. O. 1871, p. 9.

Phœnicopterus roseus Salvad. Cat. B. Brit. Mus. xxvii. p. 12 (1895).

35. MARMARONETTA ANGUSTIROSTRIS (Ménétr.).

Marmaronetta angustirostris Salvad. Cat. B. Brit. Mus. xxvii. p. 321 (1895).

Migratory Species.

1. SYLVIA ATRICAPILLA Linn.

Sylvia atricapilla Dohrn, J. f. O. 1871, p. 5; Seebohm, Cat. B. Brit. Mus. v. p. 23 (1881).

*2. CHELIDON URBICA (Linn.).

Chelidon urbica Sharpe, Cat. B. Brit. Mus. x. p. 87 (1885).

*3. HIRUNDO RUSTICA Linn.

Hirundo rustica Sharpe, Cat. B. Brit. Mus. x. p. 128 (1885).

*4. COTURNIX COMMUNIS Bonn.

Coturnix coturnix Grant, Cat. B. Brit. Mus. xxii. p. 231 (1893).

*5. SQUATAROLA HELVETICA (Linn.).

Squatarola helvetica Sharpe, Cat. B. Brit. Mus. xxiv. p. 182 (1896).

*6. STREPSILAS INTERPRES (Linn.).

Arenaria interpres Sharpe, Cat. B. Brit. Mus. xxiv. p. 92 (1896).

*7. NUMENIUS ARQUATUS (Linn.).

Numenius arquatus Sharpe, Cat. B. Brit. Mus. xxiv. p. 341 (1896).

8. NUMENIUS PHÆOPUS (Linn.).

Numenius phæopus Sharpe, Cat. B. Brit. Mus. xxiv. p. 355 (1896).

*9. TRINGOIDES HYPOLEUCUS (Linn.).

Tringoides hypoleucus Sharpe, Cat. B. Brit. Mus. xxiv. p. 456 (1896).

*10. TOTANUS GLOTTIS (Lath.).

Glottis nebularius Sharpe, Cat. B. Brit. Mus. xxiv. p. 481 (1896).

*11. CALIDRIS ARENARIA (Linn.).

Calidris arenaria Sharpe, Cat. B. Brit. Mus. xxiv. p. 526 (1896).

*12. RISSA TRIDACTYLA (Linn.).

Rissa tridactyla Saunders, Cat. B. Brit. Mus. xxv. p. 305 (1896).

*13. ARDEA PURPUREA Linn.

Ardea purpurea Hartl. Orn. W.-Afr. p. 220 (1857); Meade-Waldo, Ibis, 1889, p. 4.

14. ARDEA CINEREA Linn.

Ardea cinerea Dohrn, J. f. O. 1871, p. 8.

VIII.—*On some Birds from the Island of Negros, Philippines.* By W. EAGLE CLARKE, F.L.S.—Part III.*

I AM indebted to Mr. John Maclauchlan, of Dundee, and to Mr. W. A. Keay for the privilege of reporting upon a further collection of birds made by the latter gentleman in Eastern Negros during the winters and early springs of 1895–6 and 1896–7. The collection contains examples of a number of species not included in the previous series obtained by Mr. Keay, and also some that are new to the avifauna of Negros.

The birds numbered are additions to Mr. Keay's collection, and the enumeration is in continuation of the former series. The references quoted are the first records for the occurrence of the species in Negros.

Some further information is afforded on a few species not new to the collection, and on others some critical remarks are made.

36. CALORNIS PANAYENSIS (Scop.); Walden, Trans. Zool. Soc. ix. p. 205 (1875). Negros (*Meyer*).

37. ORIOLUS CHINENSIS Linn.

Broderipus acrorhynchus (Vig.); Walden & Layard, Ibis, 1872, p. 101. Negros (*Layard*).

Two adult males and two young birds of the Philippine Oriole. The adults show very little yellow on the outer web of the inner secondaries. In one of the specimens this colour is reduced to a mere terminal spot. The yellow is generally described as occupying nearly the entire web.

38. ORIOLUS STEERII Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 329 (1876). Negros (*Steere*).

An adult male of Steere's Oriole. The type specimens of this species were obtained in Negros by Dr. Steere during his first expedition to the Philippines.

39. MUNIA JAGORI Cab.; Tweeddale, P. Z. S. 1878, p. 287. Negros (*Everett*).

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* For previous papers see Ibis, 1894, pp. 531–535, and 1895, pp. 472–479.

40. MOTACILLA MELANOPE Pall.; Steere, List of Birds & Mamm. Philipp. p. 21 (1890). Negros.

Of the common Grey Wagtail there is an adult specimen in winter-plumage. This species has occurred elsewhere in the Philippines in the cold season.

41. MEGALURUS RUFICEPS Tweedd. P. Z. S. 1878, p. 285. Negros (*Everett*).

Two examples. The first specimens of this Marsh Warbler were obtained in Negros by Mr. Everett, as recorded by Lord Tweeddale.

42. MONTICOLA SOLITARIUS (P. L. S. Müller).

Monticola manillensis (Gm.); Wald. & Lay. Ibis, 1872, p. 101. Negros (*Layard*).

43. HYPSIPETES PHILIPPENSIS (Gm.); Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 335 (1876). Negros (*Steere*).

44. ARTAMIDES PANAYENSIS Steere; Grant, Ibis, 1896, p. 534. Negros (*Whitehead*).

45. EDOLIISOMA PANAYENSE Steere; Grant, Ibis, 1896, p. 537. Negros (*Whitehead*).

46. LALAGE TERAT (Bodd.); Grant, Ibis, 1896, p. 539. Negros (*Whitehead*).

An adult male Pied Cuckoo Shrike, in which the primaries are pure white on the basal two-thirds of the inner web. Dr. Sharpe says (Brit. Mus. Cat. Birds, iv. p. 96), "quills black."

47. HYPOTHYMIS AZUREA (Bodd.).

Muscicapa azurea Bodd.; Wald. & Lay. Ibis, 1872, p. 102. Negros (*Layard*).

A male of the Black-naped Flycatcher without the black crescentic bar across the fore neck, and agreeing with *H. ceylonensis* Holdsworth: a species which Mr. Oates (Birds Brit. India, ii. pp. 49, 50) does not uphold, by reason of the black bar not being a constant character.

48. RHIPIDURA ALBIVENTRIS Sharpe.

Philentoma albiventris Sharpe; Tweedd. P. Z. S. 1878, p. 284. Negros (*Everett*).

49. Hirundo rustica (Linn.).

The Common Swallow is a new bird to the fauna of Negros. An adult and a young bird in the collection belong to the form described as *H. gutturalis* by Scopoli. The Swallow is a winter visitor to other islands of the Philippine Archipelago.

Chætura celebensis Sclater; Eagle Clarke, Ibis, 1894, p. 533, 1896, p. 497.

Mr. Keay sends another fine specimen of this very rare Spine-tailed Swift—the fourth known example—and has kindly presented it to the Edinburgh Museum of Science and Art.

Mr. Keay also communicates the following remarks on the habits of this species:—The bird is somewhat rare in Eastern Negros, but when it appears it does so in considerable numbers and always flies over the mangrove-swamps, apparently in pursuit of insects. The natives tell him that it builds its nest in caves in the island: a statement which Mr. Keay regards as probable. It seems that the bird has visited this neighbourhood oftener than he at first was aware, for on questioning the "boys" he found that the Swifts had been seen on several occasions not reported to him, because the birds were flying so high as to be out of shot. Mr. Keay thinks that they may also appear without the "boys" noticing them.

50. Macropteryx cornuta (Temm.); Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 319 (1876). Negros (*Steere*).

51. Caprimulgus manillensis G. R. Gray.

This Goatsucker has not hitherto been obtained in Negros. It is represented by a single specimen in Mr. Keay's collection.

Thriponax hargitti Sharpe; Eagle Clarke, Ibis, 1894, p. 534.

It is incorrect to suppose that there is an entire absence of white at the base of the primaries in all specimens of this species. All the three specimens of Hargitt's Woodpecker in Mr. Keay's 1895–96 collection show a small and varying quantity of this colour. In one the extreme basal portion of the quills is entirely white. In the second, the white is confined to subbasal spots. The third specimen is moulting, but shows white bases to the outer primaries.

52. ALCEDO ISPIDA Linn.

A. bengalensis Gm.; Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 317 (1876). Negros (*Steere*).

53. CACOMANTIS MERULINUS (Scop.); Steere, List of Birds & Mamm. Philipp. p. 12 (1890). Negros.

54. EUDYNAMIS MINDANENSIS (Linn.); Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 320 (1876). Negros (*Steere*).

CENTROPUS JAVANENSIS Dumont; Eagle Clarke, Ibis, 1895, p. 476.

There are four specimens of the Javan Coucal in the series. One is quite a young bird, tail only 5·2 inches, and pronouncedly barred with rufous. The second is in full seasonal plumage. The others are in transition dress, with bars or partial bars on the tail, and although one of them is approaching full breeding-dress the tail is conspicuously barred.

55. CENTROPUS VIRIDIS (Scop.); Walden, Trans. Zool. Soc. ix. p. 163 (1875). Negros (*Meyer*).

Two specimens of the Green Coucal, one a very large example, the wing measuring 7·3 inches.

56. CACATUA HÆMATUROPYGIA (P. L. S. Müller); Walden, Trans. Zool. Soc. ix. p. 133 (1875). Negros (*Meyer*).

57. TANYGNATHUS LUCIONENSIS (Linn.).

Tanygnathus mulleri, ap. Wald. & Lay., Ibis, 1872, p. 95. Negros (*Layard*).

58. PRIONITURUS DISCURUS (Vieill.); Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 312 (1876). Negros (*Steere*).

59. MICROHIERAX ERYTHROGENYS (Vig.).

An adult. This Falconet is new to the avifauna of Negros.

60. NYCTICORAX MANILLENSIS Vigors; Tweedd. P. Z. S. 1878, p. 288. Negros (*Everett*).

61. Butorides javanica (Horsf.).

Ardea javanica Horsf.; Wald. & Lay. Ibis, 1872, p. 105. Negros (*Layard*).

62. Osmotreron axillaris (G. R. Gray); Walden, Trans. Zool. Soc. ix. p. 211 (1875). Negros (*Meyer*).

63. Phabotreron nigrorum Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 346 (1876). Negros (*Steere*).

64. Carpophaga poliocephala G. R. Gray; Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 347 (1876). Negros (*Steere*).

65. Carpophaga ænea (Linn.); Walden, Trans. Zool. Soc. ix. p. 215 (1875). Negros (*Meyer*).

66. Turtur dussumieri Temm.; Walden, Trans. Zool. Soc. ix. p. 218 (1875). Negros (*Meyer*).

67. Hypotænidia striata (Linn.); Steere, List Birds & Mamm. Philipp. p. 26 (1890). Negros.

68. Hypotænidia torquata (Linn.); Tweedd. P. Z. S. 1878, p. 288. Negros (*Everett*).

69. Porzana fusca (Linn.).

New to the fauna of Negros. The Ruddy Rail is represented by three adult specimens. In all of these the feathers of the under tail-coverts have two distinct bars of white, as well as a fringe of that colour. These white bars are not mentioned in Dr. Sharpe's description of the species (Cat. Birds B. M. xxiii. p. 147).

70. Amaurornis olivacea (Meyen).

This Waterhen is here recorded for the first time for Negros. There are two specimens in the collection; one of these is a large example, the wing measuring 6·8 inches, and has the apical third of the under mandible conspicuously yellow.

71. Gallinula chloropus (Linn.).

The Common Waterhen does not appear to have been hitherto obtained in the Island of Negros. Mr. Keay sends three specimens, two adults and one young bird. It is also found in other islands of the archipelago, and appears to be resident.

72. Charadrius fulvus Gm.; Wald. & Lay. Ibis, 1872, p. 105. Negros (*Layard*).

73. Numenius phæopus Linn.; Steere, List Birds & Mamm. Philipp. p. 26 (1890). Negros.

IX.—*On a New Species of Pheasant from Burma.*

By Eugene W. Oates, F.Z.S.

When I visited the Ruby Mines in 1895, I observed the skins of a pair of Pheasants in the possession of Mr. F. Atlay, the manager of the mines. I identified them with *Calophasis humiæ*, and asked Mr. Atlay to send them to the Natural History Museum, South Kensington, which he kindly did.

Not long after, my friend Major G. Rippon procured a pair of the same Pheasant (Ibis, 1897, p. 5) at Kalaw, a locality about 150 miles south of the Ruby Mines. He also generously placed these specimens in our National collection.

Quite recently I have had occasion to study the Indian Pheasants, and I came to the conclusion that these Pheasants from the Ruby Mines and Kalaw were quite distinct from *C. humiæ* of Manipur. On drawing the attention of Mr. Ogilvie Grant to this subject, he produced a copy of a very recent paper in the 'Journal of the Asiatic Society of Bengal' by Mr. F. Finn, of the Indian Museum, in which that gentleman has brought to notice one or two prominent differences between the Manipur and the Burmese species of *Calophasis*.

I propose to name the Burmese bird *Calophasis burmannicus*, and proceed to point out its characters in a tabular form.

This comparison has been made between fully adult males of the two species. Younger males show the same characters, but not in such a distinct manner.

The females of the two species do not appear to me to differ from each other.

	C. humiæ.	*C. burmannicus.*
Back and rump	Each feather blue with a narrow white margin about one-tenth of an inch wide.	Each feather glossy black with a broad white margin about one-sixth of an inch wide.
Lower white wing-bar.	The concealed parts of the feathers, the tips of which form this bar, black.	The concealed parts of the feathers, the tips of which form this bar, chestnut with a firm black band between the chestnut and the white.
Black wing-bar	Broad and uniformly black.	Imperfect, being mixed up with large patches of chestnut.
Mantle	Upper part of mantle black; lower, maroon.	The whole mantle maroon.
Tail	Only the middle pair of feathers distinctly barred with chestnut.	Not only the middle pair of feathers but the next four pairs distinctly barred with chestnut.

Habitat. The Ruby Mines district of Burma and the Southern Shan States.

X.—*Further Notes on Tunisian Birds.*

By Joseph I. S. Whitaker, F.Z.S.

In the spring of 1897 I made another short, but, from an ornithological point of view, not unfruitful trip in the Tunisian Regency, in the course of which I secured specimens of a few species of birds not previously recorded by me from Tunis, and obtained the nests and eggs of several interesting southern species. I was also able to verify one or two facts of some importance relating to the Ornis of this portion of North-west Africa, and generally to add to my knowledge of its avifauna.

The route I took this time varied in some measure from that followed by me on previous occasions, for instead of going from Tunis to Tebessa, and then starting southward on my caravan journey, I took the new line of railway along the coast from Tunis to Sousa, and then struck inland, going first to the sacred city of Kairouan, and then across country to Gafsa. From this latter town I travelled westward as far as Oglet-Zellés, and then northward, crossing the mountains by Ain-Moularés, to Feriana, whence I went to Kasrin, and finally to Tebessa, where I took the rail to Tunis.

Among the birds new to my Tunisian collection, of which I obtained specimens on the present occasion or have received examples during the past twelvemonth from Blanc, the Tunis naturalist, I may mention the following species as being the most noteworthy:—*Turdus iliacus, T. torquatus, Chrysomitris spinus, Passer montanus, Chersophilus duponti, Caprimulgus ruficollis, Merops persicus, Coccystes glandarius, Bubo ascalaphus, Nisaëtus fasciatus, Falco peregrinus, F. eleonoræ, Columba palumbus, C. œnas, Turnix sylvatica, Porphyrio cæruleus, Otis houbara,* and *Stercorarius crepidatus.*

With regard to one of the species in the above list, viz. *Chersophilus duponti,* having this year had exceptional opportunity of observing and studying its habits and home life, I have the following remarks to make:—

In my notes on Tunisian birds (Ibis, 1895, p. 98) I mentioned having obtained a specimen of *C. margaritæ* (Koenig) at Saharidj, between Feriana and Gafsa, and in my subsequent notes (Ibis, 1896, p. 89), referring to the birds met with by Mr. Aplin in South Tunis, I again alluded to this Lark, observing that the specimens from the far south of the Regency were "all very rufous in colour, and still more so than the specimen obtained by myself last year."

In the course of my recent journey in Tunisia I obtained specimens of what I consider to be the typical *C. duponti* (Vieill.), viz., dark-plumaged birds, differing considerably in shade of colouring from those from the far south of Tunisia, and also, although to a less extent, from that which I obtained between Feriana and Gafsa. In point of colour these Tunisian *C. duponti* lately found by me are slightly darker than some skins I have from Algeria, and also than Loche's specimens in the Turati collection at Milan. On the other hand, they are not quite so dark as a specimen in my collection from Malaga, in Spain.

Like some other non-migratory species, this Lark seems to vary in its plumage-colouring according to the natural characteristics of the particular locality it may inhabit, and thus we find the extreme southern form differing greatly in this respect from the northern form, and sufficiently so, I think, to be separated from it as a subspecies. In measurements, I may mention, I find no difference between the above forms, the wing-measurement in some twenty specimens I have of this Lark in my collection varying from 4 to 4·2 inches in the case of males, and from 3·55 to 3·75 inches in that of females.

I found *C. duponti* not at all uncommon on the plains between Feriana and Kasrin, and I also met with it near El-Oubira, on the Algerio-Tunisian frontier. At Bou-Chebka, to the north of Feriana, it is also comparatively abundant, in fact it seems to occur throughout the greater part of the high-plateau region of Central Tunis, and I can only repeat what I wrote in 'The Ibis' for 1895, viz.: that this species "is not quite so uncommon as it is generally supposed to be, and that it is owing to the extraordinary capacity the bird has of hiding itself that it escapes notice, and is not more often got."

All the plains where I met with *C. duponti* were covered with wild thyme and other low-growing plants, affording ample cover for hiding, and in no case did I ever meet with this species on a bare spot; indeed, I generally had the greatest difficulty in catching sight of the bird, although hearing its soft notes within a few yards of me. It is a great runner, and I only twice saw the bird on the wing. Its flight is low, rather feeble, and not prolonged, and so soon as it alights on the ground it runs off, and attempts to conceal itself in the thickest part of the herbage. I generally saw but one bird at a time; only once did I see two together, probably a pair. Somewhat strange to say, the green, thyme-clad plains, so much frequented by *C. duponti,* do not seem to be in equal favour with other species of birds, an occasional pair of Crested Larks being all that one may expect to meet with on them besides the present species, and even Crested Larks are wanting in certain districts. Occasionally some of these plains have a little alfa grass growing on them in patches, and here one may meet with the Lesser Bustard. The notes of *C. duponti,* as previously mentioned by me, are exceedingly soft and melodious; but I noticed that they differed somewhat this time from those I had heard on a former visit, when I was nearly a month earlier in the year. The notes I heard this time, so far as it is possible to transcribe them on to paper, are as follows:—a prolonged *twēē,* and then a soft *tee-wit-wār,* the last note in a lower key.

I was unsuccessful in finding a nest of this species myself, and, being pressed for a time, had to hurry home; but on my return I immediately sent back one of my men, accompanied by Blanc, the taxidermist, with full instructions as to where to hunt for nests. After two or three days of fruitless search they finally succeeded in finding a nest, with three fresh eggs in it, on the 15th May, near Bou-Chebka, on the Hauts Plateaux, at an elevation of over 3000 feet above sea-level. The hen bird was secured at the same time from off the nest, which was placed at the foot of a tuft of wild thyme, and sunk rather deeply into the ground. The nest, which was brought me, together with the eggs, seems rather small for the size of the bird, although of fair depth. It is composed of soft bents, chiefly of *Anthemis mixta,* with little or no lining. The eggs all differ somewhat one from the other. The following is a description of them:—

a. Glossy greyish-white ground, plentifully spotted, and blotched all over, but particularly at the larger end, with grey shell-markings and yellow-brown surface-spots. Measurements: 24 × 18 mm.

b. Glossy greyish-white ground; shell-markings grey and very plentiful, surface-spots faint yellow-brown, and few. Rather more thickly spotted at larger end. Shape of this egg more pear-like than the others. Measurements: 25 × 17·5 mm.

c. Greyish-white ground; very evenly covered all over with minute spots of a grey and faint yellow-brown colour; not a single large spot or blotch; in fact the colour of the egg, at a little distance, seems of an uniform greenish tinge. Measurements: 24 × 17·5 mm.

Besides the above-described nest and eggs of *C. duponti*, my men found two other nests at Bou-Chebka, each with three young birds, just hatched, which they concluded were of this species as they saw no other birds in this particular locality except *C. duponti*. This would imply that the normal full complement of eggs is three. A young bird of this species, a few weeks old, was also obtained at Bou-Chekba. I believe the only previously recorded instance of the nest and eggs of this Lark having been obtained is that mentioned in Dresser's 'Birds of Europe,' vol. iv. p. 279.

Of the nests and eggs obtained by me during my late trip, other than those of *C. duponti*, the following are among the most interesting, viz.:—*Saxicola mœsta, S. leucura, Argya fulva, Erythrospiza githaginea, Emberiza saharæ, Otis tetrax*, and *O. houbara*. Besides these, I obtained several nests and eggs of the different forms of Crested Larks, and of Short-toed Larks, as also of Ravens, Magpies, Grey Shrikes, and of the commoner species of Raptores.

With regard to the nesting of *Saxicola mœsta*, comparatively little has previously been recorded, Canon Tristram, I believe, being the only one who has hitherto been fortunate enough to find the nest and eggs of this bird ('Ibis,' 1859, p. 299, 'Birds of Europe,' vol. ii. p. 227). I propose, therefore, giving a description of the nests and eggs I found of this species, and of its breeding-habits generally, so far as I was able to observe them.

Of this Chat I took three nests, two of them near Ras-el-Aioum, a district about 25 miles to the west of Gafsa, and a third at Oglet-Zellés, a few miles still further west. Ras-el-Aioum is situated at the extreme south of the Haut Plateau, which is bounded on the north by the high range of mountains forming the natural frontier between Algeria and

Tunisia, and on the south by the lower range, beyond which lies the desert country of the Chotts. The elevation of this district is about 1200 feet above sea-level, and the character of the country is of the semi-desert description, with stony plains, covered with a scanty scrub vegetation, although, owing to its proximity to the southern range of hills, there is much broken ground and numerous watercourses, dry as a rule, intersecting the plain. In the immediate vicinity of Ras-el-Aioum, through which flows the Oued Seldja, the vegetation is of a less stunted nature, and by the river-banks there is a thick growth of tamarisks and oleanders, the favourite haunt of many birds. Oglet-Zellés stands a little higher than Ras-el-Aioum, and, being situated near the centre of the plain, has a more open and less broken country, but in other respects the two districts resemble each other.

The first nest taken at Ras-el-Aioum I found on the 13th April. It was placed in a hole at the foot of a low marl cliff, a bare spot, destitute of vegetation. The hole, which was just large enough to admit the easy passage of the bird, extended nearly a yard in length, in a horizontal direction, with a bend about halfway. The nest, placed at the further extremity of the hole, was cup-shaped, and fairly large for the size of the bird. It was composed exteriorly of coarse grass-bents, rather loosely put together, with finer and softer grass inside, and lined plentifully with wool and hair, both camels' and goats'. The eggs, which unfortunately were rather hard to get, were five in number, and of a very delicate, pale greenish blue, sparsely spotted, and principally at the larger end, with spots of a pale lake-colour. The following are the dimensions of three of the eggs which I measured :—(*a*) 24 × 17 mm. ; (*b*) 23 × 16 mm. ; (*c*) 24 × 16 mm.

The second nest, also taken at Ras-el-Aioum on the 13th of April, was placed in a hole in a marl cliff, like the first ; but as this cliff formed one of the banks of a dry watercourse, the hole was about five feet from the ground, or bed of the stream, a providential instinct having no doubt taught the bird to avoid a possible catastrophe. As in the first instance, this hole extended nearly a yard in length in a horizontal direction, but without any bend. The nest and eggs, of which there were again five, apparently the full complement, resembled those previously found. These eggs were also somewhat incubated. I did not measure any of them, but they appeared identical with the first clutch. In digging out this nest I unearthed a rather large scorpion, which made me wonder how these birds can bring up their young safely, exposed as they are, particularly those nesting in holes in the ground, to so many dangers.

The third nest I took at Oglet-Zellés on the 17th April. In this instance the hole, which was probably the deserted home of some small rodent, was in almost level ground, where a few scrub plants served to hold the light crumbling soil together. Like the other two, this hole extended about a yard in length, but in a slightly oblique downward direction. This nest contained only four eggs, very slightly incubated. In colour they resembled those previously found, but the spots were fewer and more minute, in one egg being almost entirely wanting, in another the few there were being collected in a zone at the larger end. In shape these eggs were more oval than those of the other two clutches. The following are the measurements of two of them :—(*a*) 24 × 15·5 mm.; (*b*) 23 × 16 mm.

I secured the hen-bird in each instance, after having seen her enter and leave her nest-hole, and in two of the cases I shot what was presumably the cock-bird as well. I doubt the male parent taking much, if any, part in the incubation of the eggs, as, although generally to be seen in the immediate vicinity of the nest, I failed to observe it enter, or leave the hole in any one of the three cases I have mentioned. The fact also of the male birds being so much oftener seen during the breeding-season than the females would tend to support this supposition, allowing even for the more conspicuous plumage of the former.

Saxicola mœsta is, without doubt, an early breeder, and has more than one brood in the course of the season, young birds of this species, fully fledged and able to fly, being met with at the beginning of April, or even earlier, and probably the three clutches of eggs found by me were all of a second laying. At Ras-el-Aioum I shot a young male *S. mœsta* on the 13th April, which must have been nearly two months old, and at Oglet-Zellés I saw two or three young broods of this species shifting for themselves at the middle of April.

In the course of my late journey I again met with and secured specimens of *Sylvia deserticola, Loxia curvirostra, Cypselus affinis, Pterocles coronatus,* and of other interesting species which I have previously recorded from Tunisia.

The Sparrows in some parts of the Regency again puzzled me a little, owing to cases of evident hybridism. I have, however, now no longer any hesitation in saying that *Passer salicicola* is the common Sparrow of the country, being found generally throughout the whole of Tunisia, while *P. domesticus,* so far as I have been able to ascertain, occurs, at present, only in the more western districts of the Regency, to which it has probably spread from Algeria. The railway has no doubt been instrumental in contributing towards this diffusion, and it is not unlikely we shall, at no distant date, find *P. domesticus* quite at home in the town of Tunis, and in other places in the east of the Regency, where it appears now to be wanting.

Where the two species *P. domesticus* and *P. salicicola* meet, they seem to interbreed freely, so much so that in some of the villages of Western Tunisia a bastard race appears to have been formed, partaking of the characters of both species.

With regard to *P. italiæ,* I am still unable to state positively that it occurs in Tunisia. I have specimens in my collection from Tunis, which certainly resemble this species more than either of the other two; but I cannot say I have yet come across a typical *P. italiæ* in the Regency.

Finally it may be mentioned that I found the Grey Shrikes, in certain districts of Central Tunis not previously visited by me, varying in shade of plumage-colouring and in markings between *Lanius algeriensis* and *L. elegans,* but with regard to these I propose making some remarks in a separate paper.

XI.—*On a Collection of Birds from Witu, British East Africa.* By F. J. Jackson, F.Z.S. *With Notes by* R. Bowdler Sharpe, LL.D., F.Z.S.

The collection here described was made by me during a short residence in Witu in May and June, 1891, and again in November of the same year. Dr. Bowdler Sharpe has added a few notes on some of the specimens.

[The collection contains examples of some interesting species, and I have thought it worth recording, as hitherto no one but Dr. Fischer appears to have collected birds in this district (*cf.* J. f. O. 1885, pp. 113–142).—R. B. S.]

1. Lamprocolius melanogaster (Sw.).

Lamprocolius melanogaster (Swains.); Sharpe, Ibis, 1891, p. 242.

No. 9, ♂. Witu, May 5, 1891.—Iris bright orange-yellow, with an inner ring of yellow; feet and bill black.

No. 13. Witu, Nov. 17, 1891.

2. Oriolus notatus.

Oriolus notatus Peters; Sharpe, Cat. B. Brit. Mus. iii. p. 196; Reichen. Vög. Deutsch-Ost-Afr. p. 168, fig. 78 (1894); Shelley, B. Africa, i. p. 41 (1896).

No. 48. Witu, June 16, 1891.—Bill pale dull carmine; feet horn-blue; iris crimson.

[It must have been by a *lapsus calami* that Captain Shelley recorded the Oriole from Manda Island as *O. auratus*. The specimen was presented by Mr. Jackson to the British Museum, and is undoubtedly *O. notatus*.—R. B. S.]

3. Oriolus rolleti.

Oriolus rolleti Salvad. Atti R. Accad. Torin. vii. p. 151; Reichen. Vög. Deutsch-Ost-Afr. p. 168 (1894).

Oriolus larvatus (pt.), Sharpe, Cat. B. Brit. Mus. iii. p. 217 (1877).

No. 2, ♂. Witu, June 20, 1891.—Iris bright crimson; bill dull carmine.

No. 47, juv. Witu, June 16, 1891.—Bill dull black; legs horn-blue; iris brown.

4. BUCHANGA ASSIMILIS.

Buchanga assimilis Sharpe, Cat. B. Brit. Mus. iii. p. 247 (1877).

Dicrurus afer (Licht.); Reichen. Vög. Deutsch-Ost-Afr. p. 166 (1894); Shelley, B. Africa, i. p. 47 (1896).

No. 62, ♀ juv. Witu, June 20, 1891.

5. PYROMELANA DIADEMATA.

Pyromelana diademata (F. & R.); Sharpe, Cat. B. Brit. Mus. xiii. p. 236 (1890); Reichen. Vög. Deutsch-Ost-Afr. p. 189 (1894); Shelley, B. Africa, i. p. 25 (1896).

No. 40, ad. Witu, June 14, 1891.—Bill black; legs shrimp-brown, toes darker; iris brown.

6. PYROMELANA NIGRIVENTRIS.

Pyromelana nigriventris (Cass.); Sharpe, Cat. B. Brit. Mus. xiii. p. 230 (1890); Reichen. Vög. Deutsch-Ost-Afr. p. 189 (1894); Shelley, B. Africa, i. p. 25 (1896).

Nos. 5, 7, ♂ ad. Witu, May 5, 1891.

Nos. 13, 26, 27, ♀ ad. Witu, May 8–19, 1891.—Iris brown; legs flesh-colour.

7. AMBLYOSPIZA UNICOLOR.

Amblyospiza unicolor (Fischer & Reichen.); Sharpe, Cat. B. Brit. Mus. xiii. p. 503 (1890); Reichen. Vög. Deutsch-Ost-Afr. p. 182, fig. 83 (1894); Shelley, B. Africa i. p. 33 (1896).

Nos. 21, 32, 33, 38, ♂ ad. et imm. Witu, May 12, 21, 1898.—Bill and legs black; iris brown.

8. SPORÆGINTHUS SUBFLAVUS.

Sporæginthus subflavus (Vieill.); Sharpe, Cat. B. Brit. Mus. xiii. p. 324 (1890); Reichen. Vög. Deutsch-Ost-Afr. p. 188 (1894).

Estrelda subflava Reichen. J. f. O. 1892, p. 48; Shelley, B. Africa, i. p. 30 (1896).

No. 20, ♂ ad. Witu, May 12, 1891.—Iris orange; bill crimson, dusky on the top of upper mandible; legs brownish flesh-colour.

9. Urobrachya nigronotata.

Urobrachya phœnicea (Heugl., pt.); Sharpe, Cat. B. Brit. Mus. xiii. p. 225 (1890).

Urobrachya nigronotata Sharpe, Bull. B. O. Club, vii. p. vii (1897).

No. 3, ♂ ad. Witu, June 13, 1891.

[There seems to me to be some confusion about the species of *Urobrachya*, and the differences between them are not set forth in the 'Catalogue of Birds' so plainly as they might have been.

U. axillaris and *U. hildebrandti* (Sharpe, Cat. B. xiii. pp. 224, 225), if, indeed, the latter subspecies be really distinct, have the outer greater coverts, as well as the inner ones, black, with a narrow edging of cinnamon, whereas in *U. phœnicea* and *U. traversi* (which seems to me to be very doubtfully distinct from *U. phœnicea*) the outer greater coverts are entirely cinnamon. The bird from Witu has the outer greater coverts cinnamon, but with *broad black terminal spots.* It would be supposed that Shelley's *U. zanzibarica* (P. Z. S. 1881, p. 586) would be of this race, but on comparing the type specimen I find that it is not to be distinguished from *U. phœnicea,* though the Museum contains an example of *U. nigronotata* from Mombasa (*Wakefield*) and another from Lamu (*Kirk*).—R. B. S.]

10. Pyromelana flammiceps.

Pyromelana flammiceps (Swains.); Sharpe, Cat. B. Brit. Mus. xiii. p. 228 (1890); Reichen. Vög. Deutsch-Ost-Afr. p. 190, fig. 86 (1894); Shelley, B. Africa, i. p. 25 (1896).

No. 15, ♂ ad. Witu, May 10, 1891.—Iris brown; bill black; legs dark flesh-colour.

No. 35, ♂ ad. Witu, May 21, 1891.

No. 36, ♀ ad. Witu, May 22, 1891.—Iris brown; bill dusky brown, lower mandible paler; legs pale shrimp-brown.

11. Sycobrotus kersteni.

Sycobrotus kersteni Finsch & Hartl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 423 (1890); Shelley, B. Africa, i. p. 37 (1896).

Symplectes kersteni Reichen. Vög. Deutsch-Ost-Afr. p. 178 (1894).

No. 10, ♂ ad. Witu, May 6, 1891.

Nos. 30, 31, ♂ ♀ ad. Witu, May 20, 1891.

12. HYPHANTORNIS BOJERI.

Hyphantornis bojeri Finsch & Hartl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 448 (1890).

Ploceus bojeri Reichen. Vög. Deutsch-Ost-Afr. p. 181, fig. 82 (1894).

No. 16, ♂ ad. Witu, May 10, 1891.—Bill black; legs dark flesh-colour; iris brown.

13. HYPHANTORNIS NIGRICEPS.

Hyphantornis nigriceps Layard; Sharpe, Cat. B. Brit. Mus. xiii. p. 456 (1890); Shelley, B. Africa, i. p. 40 (1896).

Ploceus nigriceps Reichen. J. f. O. 1892, p. 43 (Ikuru Isl.); id. Vög. Deutsch-Ost-Afr. p. 181 (1894).

No. 19, ♂ juv. Witu, May 11, 1891.

No. 29, ♂ ad. Witu, May 20, 1891.

Nos. 37, 39, ♂ ad. Witu, May 22, 1891.—Bill black; legs pale shrimp-brown; iris pale crimson or orange-red. Breeding in high trees.

14. MACRONYX CROCEUS.

Macronyx croceus (Vieill.); Sharpe, Cat. B. Brit. Mus. x. p. 626 (1885); id. Ibis, 1891, p. 589; Reichen. Vög. Deutsch-Ost-Afr. p. 199, fig. 90 (1894); Shelley, B. Africa, i. p. 13 (1896).

No. 6, ♀ ad. Witu, May 5, 1891.—Legs dark flesh-colour.

15. TMETOTHYLACUS TENELLUS.

Tmetothylacus tenellus (Cab.); Shelley, B. Africa, i. p. 13 (1896).

Macronyx tenellus Reichen. Vög. Deutsch-Ost-Afr. p. 200 (1894).

Nos. 41, ad.; 42 ♀ imm. Witu, June 14, 1891.—Iris brown; upper mandible black, lower one slaty blue; legs dark fleshy brown.

16. ANTHOTHREPTES HYPODILA.

Anthothreptes hypodila (Jard.); Reichen. Vög. Deutsch-Ost-Afr. p. 210 (1894); Shelley, B. Africa, i. p. 6 (1896).

Anthodiæta hypodila Shelley, Monogr. Nectar. p. 345, pl. iii. figs. 1, 2.

Nos. 18, 23, 24, ♂ ♀ ad. Witu, May 11–14, 1891.—Breeding. Bill and legs black; iris brown.

17. CINNYRIS BRADSHAWI Sharpe, sp. n.

No. 55, ♂ ad. Witu, June 16, 1891.

[This seems to be a small form of *C. amethystina*, and has metallic purplish upper tail-coverts. It is closely allied to *C. deminuta* of Angola, and has even a smaller bill than that race. The general colour of the plumage is velvety brown, not black, as in *C. amethystina*. I find a second specimen in the British Museum from the Zambesi, collected by the late Dr. Bradshaw, an excellent field-naturalist, who died at his post on the Orange River, the natural history of which district he was engaged in studying at the time of his death. I have named the species after him.—R. B. S.]

18. CINNYRIS KIRKI.

Cinnyris kirki Shelley, Monogr. Nectar. p. 273, pl. 85; Sharpe, Ibis, 1891, p. 592; Reichen. Voy. Deutsch-Ost-Afr. p. 210 (1894).

Chalchomitra kirki Shelley, B. Africa, i. p. 5 (1896).

No. 4, ♂ ad. Witu, May 4, 1891.

19. CINNYRIS RAGAZZII.

Cinnyris ragazzi Salvad. Ann. Mus. Civic. Genov. (2) vi. p. 247 (1888).

Cyanomitra ragazzi Shelley, B. Africa, i. p. 5 (1896).

No. 25, ♂. Witu, May 14, 1891.—Legs brown.

[Compared with a typical specimen from Shoa in the British Museum.—R. B. S.]

20. LANIARIUS APPROXIMANS.

Laniarius approximans (Cab.); Reichen. Vög. Deutsch-Ost-Afr. p. 178 (1894).

Malaconotus approximans Shelley, B. Africa, i. p. 57 (1896).

No. 43, ♀ ad. Witu, June 15, 1891.—Iris bright yellow; bill black; legs pale horn-blue.

21. DRYOSCOPUS SALINÆ.

Laniarius salinæ Finsch & Hartl. Vög. Ost-Afr. p. 349.

No. 8, ♂ ad. Witu, May 5, 1891.—Bill black; legs slate-colour; iris crimson.

No. 60, ♂ ad. Witu, June 19, 1891.—Bill black; legs horn-blue; iris pale crimson.

22. TELEPHONUS JAMESI.

Telephonus jamesi Shelley, Sharpe, Ibis, 1891, p. 601; Shelley, B. Africa, i. p. 56 (1896).

No. 50, ♀ ad. Witu, June 18, 1891.—Iris brown, with nine or ten white specks round the inner edge; legs horn-blue; bill black.

23. PRINIA MYSTACEA.

Prinia mystacea Rüpp.; Sharpe, Ibis, 1892, p. 155; Reichen. J. f. O. 1892, p. 57 [Mengo, Uganda]; id. Vög. Deutsch-Ost-Afr. p. 225 (1896); Shelley, B. Africa, i. p. 73 (1896).

No. 17. ♂ ad. Witu, May 10, 1891.

No. 28, ♂ ad. Witu, May 20, 1891.—Iris pale brown; bill black; legs flesh-colour.

24. CISTICOLA SUBRUFICAPILLA.

Cisticola subruficapilla (Smith); Sharpe, Cat. B. Brit. Mus. vii. p. 283 (1883); Shelley, B. Africa, i. p. 74 (1896).

No. 14, ♂ ad. Witu, May 9, 1891.—Iris bright brown; legs flesh-colour. Breeds in May. Nest placed in a tuft of grass; made of fine grass. Eggs three to four.

25. CAMAROPTERA BREVICAUDATA.

Camaroptera brevicaudata (Rüpp.); Sharpe, Ibis, 1892, p. 158; Shelley, B. Africa, i. p. 69 (1896).

No. 52, ♂ ad. Witu, June 18, 1891.—Iris pale brown; bill black; legs brownish flesh-colour.

26. TURDUS TEPHRONOTUS.

Turdus tephronotus Cab.; Seebohm, Cat. B. Brit. Mus. v. p. 226 (1881); Reichen. Vög. Deutsch-Ost-Afr. p. 233, fig. 103 (1894); Shelley, B. Africa, i. p. 88 (1896).

No. 44, ♂ ad. Witu, June 15, 1891.—Bare skin round eye dull yellow; bill and legs orange.

No. 45, ♀ ad. Witu, June 15, 1891.

27. XENOCICHLA PLACIDA.

Xenocichla placida Shelley, P. Z. S. 1889, p. 363.

Phyllostrephus placidus Reichen. Vög. Deutsch-Ost-Afr. p. 206 (1894).

Criniger placidus Shelley, B. Africa, i. p. 63 (1896).

a, ad. Witu.

28. CHLOROCICHLA MOMBASÆ.

Chlorocichla mombasæ Shelley, B. Africa, i. p. 64 (1896).

a, ad. Witu.

29. BRADYORNIS PALLIDUS.

Bradyornis pallidus (von Müller); Reichen. Vög. Deutsch-Ost-Afr. p. 151 (1894); Shelley, B. Africa, i. p. 93 (1896).

a, ♂ ad. Witu.

30. MUSCICAPA CÆRULESCENS.

Muscicapa cærulescens Hartl.; Sharpe, Cat. B. Brit. Mus. iv. p. 154; Reichen. Vög. Deutsch-Ost-Afr. p. 152 (1894); Shelley, B. Africa, i. p. 94 (1896).

No. 10, ♂ imm. Witu, Nov. 15, 1891.—Iris brown; bill dark horn-blue, lower mandible paler; legs dark horn-blue.

No. 12, ♀ ad. Witu, Nov. 16, 1891.

31. CHLOROPETA MASSAICA.

Chloropeta massaica Fischer & Reichen. J. f. O. 1884, p. 54; Reichen. Vög. Deutsch-Ost-Afr. p. 149 (1894); Shelley, B. Africa, i. p. 96 (1896).

a, ♂ ad. Witu, Nov. 4, 1897.—Bill dusky flesh-colour, darker above; legs yellowish flesh-colour; iris brown.

32. HIRUNDO SENEGALENSIS.

Hirundo senegalensis Linn.; Sharpe, Cat. B. Brit. Mus.

x. p. 168 (1885); id. Ibis, 1892, p. 305; Shelley, B. Africa, i. p. 103 (1896).

No. 40, ♂ ad. Witu, June 15, 1891.

[This specimen must be referred to *H. senegalensis* as it has an almost uniform tail, although on the outer feather there can be detected a faint reddish spot.—R. B. S.]

33. MELANOBUCCO MELANOPTERUS.

Melanobucco melanopterus (Peters); Shelley, Cat. B. Brit. Mus. xix. p. 19 (1891); id. B. Africa, i. p. 126 (1896).

No. 3, ♀ ad. Witu, May 4, 1891.—Bill whitish horn-colour.

34. TURACUS FISCHERI.

Turacus fischeri (Reichen.); Shelley, Cat. B. Brit. Mus. xix. p. 443 (1891); Reichen. Vög. Deutsch-Ost-Afr. p. 103 (1894); Shelley, B. Africa, i. p. 119 (1896).

No. 4, ♀ ad. Witu, June 13, 1891.

35. CUCULUS GULARIS.

Cuculus gularis Steph.; Shelley, Cat. B. Brit. Mus. xix. p. 244 (1891); Reichen. Vög. Deutsch-Ost-Afr. p. 110, fig. 50 (1894); Shelley, B. Africa, i. p. 123 (1896).

No. 34, ♂ ad. Witu, May 21, 1891.—Iris brown; eyelids lemon-yellow; base of bill yellow, tip black; legs yellow.

36. CENTROPUS SUPERCILIOSUS.

Centropus superciliosus H. & E.; Shelley, Cat. B. Brit. Mus. xix. p. 363 (1891); Reichen. J. f. O. 1892, p. 22 (Bukoba); id. Vög. Deutsch-Ost-Afr. p. 107, fig. 49 (1894); Shelley, B. Africa, i. p. 123 (1896).

No. 12, ♂ ad. Witu, May 6, 1891.—Iris crimson; bill black; legs pale slate.

37. CENTROPUS NIGRORUFUS.

Centropus nigrorufus (Cuv.); Shelley, Cat. B. Brit. Mus. xix. p. 357 (1891); Reichen. Vög. Deutsch-Ost-Afr. p. 108 (1894); Shelley, B. Africa, i. p. 122 (1896).

No. 11, ♀ ad. Witu, May 6, 1891.—Iris brown; bill black; legs dark slate.

38. HALCYON SEMICÆRULEUS.

Halcyon semicæruleus (Forskål); Sharpe, Cat. B. Brit. Mus. xvii. p. 232 (1892); Reichen. Vög. Deutsch-Ost-Afr. p. 132 (1894); Shelley, B. Africa, i. p. 117 (1896).

No. 46, ♂ ad. Witu, June 16, 1891.—Iris brown; legs coral-red; bill coral-red.

No. 51, ♂ ad. Witu, June 18, 1891.

39. BYCANISTES BUCCINATOR.

Bycanistes buccinator (Temm.); Ogilvie Grant, Cat. B. Brit. Mus. xvii. p. 421 (1892); Reichen. Vög. Deutsch-Ost-Afr. p. 127 (1894); Shelley, B. Africa, i. p. 113 (1896).

Nos. 5, 6, ♂ ad. Witu, Nov. 12, 1891.—Skin round the eye purplish.

40. TACHORNIS PARVA.

Tachornis parva (Licht.); Hartert, Cat. B. Brit. Mus. xvi. p. 463 (1892); Shelley, B. Africa, i. p. 106 (1896).

No. 49, juv. Witu.

41. STRIX FLAMMEA.

Strix flammea Linn.; Sharpe, Ibis, 1892, p. 535; Reichen. Vög. Deutsch-Ost-Afr. p. 98 (1894); Shelley, B. Africa, p. 141 (1896).

No. 9, ♂ ad. Witu, Nov. 15, 1891.

42. ACCIPITER MINULLUS.

Accipiter minullus (Daud.); Sharpe, Cat. B. Brit. Mus. i. p. 140 (1874); Reichen. Vög. Deutsch-Ost-Afr. p. 88 (1894); Shelley, B. Africa, i. p. 152 (1896).

No. 1, ♂ juv. Witu, May 3, 1891. Iris bright yellow; cere yellow; bill black; legs yellow, claws black.

43. ARDETTA MINUTA.

Ardetta minuta (Linn.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 222; Shelley, B. Africa, i. p. 158 (1896).

No. 22, ♂ ad. Witu, May 12, 1891.—Iris orange; upper mandible dusky, lower one greenish yellow; legs dull greenish yellow.

[This specimen seems to me to be undoubtedly the Little Bittern of Europe, and not *A. podicipes.*—R. B. S.]

44. LEPTERODIUS GULARIS.

Lepterodius gularis (Bosc); Sharpe, Cat. B. Brit. Mus. xxvi. p. 114.

Herodias gularis Reichen. Vög. Deutsch-Ost-Afr. p. 66 (1894).

Ardea gularis Shelley, B. Africa, i. p. 157 (1896).

a, ad. Witu.

45. PTERNISTES HUMBOLDTI.

Pternistes humboldti Peters; Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 176; Shelley, B. Africa, i. p. 179 (1896).

No. 1, ♂ ad. Witu, June 28, 1891.—Iris brown; legs bright coral-red; bill, etc., dull dark red.

XII.—*Bulletin of the British Ornithologists' Club.*

Nos. XLVII. & XLVIII.

No. XLVII. (October 31st, 1897.)

THE forty-sixth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 20th of October, 1897. *Chairman*: PHILIP CROWLEY, Esq. Thirty-four Members and ten guests were present.

Mr. H. L. POPHAM made some remarks on his recent journey to the Yenesei, and exhibited a clutch of four eggs of the Curlew Sandpiper (*Tringa subarquata*) which he had taken on an island in the Yenesei in July last, when he shot the female bird from the nest. These were the first authentic eggs of this bird on record.

Mr. H. J. PEARSON and Colonel FEILDEN gave a brief account of their expedition to Novaya Zemlya during the past summer. Mr. Pearson exhibited a series of clutches of the eggs of the Little Stint (*Tringa minuta*), as well as some beautiful photographs of nests and eggs of the various birds observed on the voyage. The narrative of the trip was related by Colonel Feilden, and was rendered specially interesting by the photographs taken and exhibited by Mr. Pearson.

Count von Berlepsch exhibited his unique specimen of *Pipra opalizans* Pelz., from Pará; also a set of skins of the interesting *Idiopsar brachyurus* Cass., hitherto represented by one specimen in the U.S. National Museum at Washington, and a fine skin of *Chrysolampis chlorolæmus* Elliot (=*Lampornis calolæma* Elliot), of which the true locality had been till now unknown. It had been received direct from Bahia, and was stated to be the third specimen known in collections.

Count von Berlepsch also laid on the table specimens of three new birds from S.W. Colombia, viz., a *Carpodectes*, a Parrot of the genus *Pionopsitta*, and a *Myiadestes* allied to *M. leucotis* Tsch. These would be described in the forthcoming number of the 'Journal für Ornithologie.'

Lastly, Count von Berlepsch exhibited a fine new Tanager of the genus *Buthraupis*, recently sent by Mr. F. W. H. Rosenberg from North-western Ecuador, and named in honour of the Hon. Walter Rothschild. The unique specimen belonged to the Tring Museum, and was diagnosed as follows:—

BUTHRAUPIS ROTHSCHILDI, sp. n.

B. corpore supra subtusque cum alis caudaque extus obscure nigro-cyaneis, uropygio lætiore; capite gulaque nigrescentibus, torque jugulari lato pulchre aurantio-flavo; tectricibus, subalaribus subcaudalibusque necnon hypochondriis pure flavis; rostro pedibusque nigris. Al. 94 mm., caud. 53, culm. 16¾, tars. 23.

Hab. Cachabé, N.W. Ecuador (500 feet).

This bird was stated to be allied to *B. edwardsi* of Elliot from S.W. Colombia, but to differ in having the back and belly blue-black, the sides of the head black, and the under tail- and wing-coverts bright yellow, all these parts being olive-green in the other species, and in having a broad band of fine orange-yellow on the breast, there being but a small yellow spot in the middle of the breast in *B. edwardsi*.

Mr. Ernst Hartert stated that there was in the British Isles a species of Tit hitherto overlooked by all observers. This was the *Parus salicarius* of C. L. Brehm, which had been quite recently rediscovered in Germany by Herr Kleinschmidt. *Parus salicarius* differed from the common British Marsh-Tit in having the crown of a less glossy and more brownish black, the flanks strongly washed with rufous, and in the dimensions being slightly different; its call-note also was different, and it seemed to keep strictly to dark, shadowy, and swampy places. It was Mr. Hartert's opinion that *P. salicarius* was a distinct species; and Herr Kleinschmidt seemed even to think that the British form of *P. salicarius* might be subspecifically separated from the Continental form; this, however, seemed still an open question.

Mr. Hartert exhibited a skin of the beautiful Pigeon called *Osculatia purpurea* Salvad., from N. Ecuador. Only the type in the British Museum was hitherto known.

He stated that Mr. Albert Meek had found *Paradisea intermedia* at Collingwood Bay in the north-eastern part of British New Guinea; and that Mr. Rothschild had received some more skins of *Macgregoria pulchra* from Mount Scratchley.

Mr. Hartert also exhibited a skin of a new species of *Tephras* from the island of Ruk, in the Caroline group, which he characterized as follows:—

Tephras ruki, sp. n.

♂ ♀. Entirely sepia-brown, the inner webs of the remiges and under wing-coverts lighter, inclining to whitish; the primaries darker, the outer webs bordered with the same colour as the back. Bill black; iris red; tarsi and feet orange-rufous; claws mouse-brown. Total length 135–140 mm., wing 79–80, tail 52–53, culmen 21, tarsus 21. The female a little smaller: wing 77–78 mm., tail 50, culmen 19. Native name "Nikildon."

An example of a new species of *Leptotriccus* was also exhibited by Mr. Hartert, and described by him as follows:—

Leptotriccus flaviventris, sp. n.

Quite different from the other two known species of the genus, *L. sylviola* Licht., of Southern Brazil, and *L. superciliaris* Scl. & Salv., of Central America, in being of a uniform sulphur-yellow colour below, and in having two broad yellow bars across the wing, formed by the yellow tips of the largest and median wing-coverts. The crown was olive-green like the back, as in *L. sylviola*, while *L. superciliaris* had the head and nape of a dark plumbeous shade. In the markings of the head and in other respects it agreed with its two congeners.

Hab. Ejido and Merida, Venezuela, April 1897 (*Mocquerys*).

The Hon. Walter Rothschild sent for exhibition three new species of birds from Northern Ecuador, which were described as follows:—

Crypturus berlepschi, sp. n.

Entirely brownish black, the abdomen and thighs vermiculated and washed with dull rufous brown; the under tail-coverts rusty red. Total length 300 mm., wing 180, tarsus 60, culmen 33.

Hab. Cachabé, N. Ecuador, 500 feet.

Odontophorus parambæ, sp. n.

♀ *ad.* Forehead, superciliary band, ear-coverts and a band under the eye, breast and abdomen bright chestnut; top of head, nape, wings, back, rump, and tail brownish black, irregularly vermiculated all over with yellowish brown; scapulars with a number of black patches; under wing-coverts brownish grey; flanks, thighs, and under tail-coverts dark brown, vermiculated and edged with rufous; chin, throat, and upper breast black, crossed on the lower throat by a broad white band. Total length about 200 mm., wings 145, tail 40, tarsus 42, culmen 24.

Hab. Paramba, N. Ecuador, 3500 feet.

NEMOSIA ROSENBERGI, sp. n.

Head, neck, and back scarlet, fading into paler orange-scarlet on the rump; upper tail-coverts dull scarlet; wings dark brown, the wing-coverts, outer webs of the primaries and secondaries rufous; under wing-coverts white, the inner edges of the quills salmon-pink. Under surface of body white, the centre of the abdomen and under tail-coverts bright orange-pink. Maxilla black, mandible whitish; feet greenish; iris brown. Total length about 120 mm., wing 69, tail 54, tarsus 15, culmen 15.

Hab. Cachabé, N. Ecuador, 500 feet.

Dr. BOWDLER SHARPE described the following new species of birds from Uganda and British East Africa:—

BURNESIA UGANDÆ, sp. n.

B. similis *B. leucopogoni*, Cab., sed abdomine imo et hypochondriis pallidè fulvescentibus, his minimè cinereis distinguenda. Long. tot. 2·7 poll., alæ 2·3, caudæ 2·45.

Hab. Ntebi, Uganda (*F. J. Jackson*). Tingasi (*Emin Pasha*: *Mus. Brit.*).

SYLVIELLA BARAKA, sp. n.

S. similis *S. virenti*, sed pileo fuscescenti-brunneo, supercilio pallidè isabellino, facie laterali fuscescente minimè rufâ, gutture vix rufescente, et hypochondriis clarè schistaceis distinguenda. Long. tot. 3 poll., alæ 2.

Hab. Ntebi, Uganda (*F. J. Jackson*).

SYLVIELLA JACKSONI, sp. n.

S. similis *S. micruræ*, sed major, saturatiùs grisea, et facie laterali, mento et corpore subtùs toto saturatè vinaceis, abdomine quoque cervino distinguenda. Long. tot. 3·7 poll., alæ 2·5.

Hab. Kamassia (*F. J. Jackson*).

XENOCICHLA PALLIDIGULA, sp. n.

X. similis *X. flavicolli*, sed gulâ dilutè flavâ, remigibus rectricibusque grisescenti-brunneis, olivascenti-viridi marginatis, nec rufescenti-brunneis : subtus pallidè olivascens, gastræo medio albido, plumis medialiter griseo striolatis, hypochondriis et subcaudalibus pallidè olivaceis, his latè albido marginatis distinguenda. Long. tot. 9 poll., alæ 4·45.

Hab. Ntebi (*F. J. Jackson*).

Barbatula jacksoni, sp. n.

B. similis *B. bilineatæ*, sed gutture et pectoris summi lateribus schistaceo-griseis, tectricibus alarum et secundariis pallidè sulphureo marginatis, et hypochondriis ochrascenti-brunneis distinguenda. Long. tot. 4·4 poll., alæ 2·4.

Hab. Mau (*F. J. Jackson*).

Urobrachya nigro-notata, sp. n.

U. similis *U. phœniceæ*, sed tectricibus alarum majoribus cinnamomeo-rufis, latè nigro terminatis distinguenda. Long. tot. 6·5 poll., alæ 3·6.

Hab. Witu (*F. J. Jackson*).

Dr. Sharpe exhibited, on behalf of Mr. Claude W. Wyatt, a nest and eggs of the Reed-Bunting (*Emberiza schœniclus*), which had been taken at Basford, near Banbury, in 1894. The season had been very wet, and the birds had provided the nest with a lid made of horsehair, apparently for the better protection of the eggs.

Dr. Sharpe also exhibited a skin of *Lanius ludovicianus*, which had been procured in Andros Island, Bahamas, by Mr. Neville Chamberlain.

In a few remarks on the present state of the Collection of Birds in the British Museum, Dr. Sharpe informed the meeting that on the 11th of September last he had completed his twenty fifth year of service in charge of that collection, and he estimated that the skins had increased in number during that time from about 40,000 to 370,000, and the eggs from about 6000 to 49,000 specimens.

Mr. Tegetmeier exhibited a skin of a Pheasant which he considered to be a hybrid between *Thaumalea picta* and *Phasianus colchicus*.

The Rev. H. H. Slater exhibited and made remarks upon a sixth British example of the Barred Warbler (*Sylvia nisoria*), which he had obtained on the Norfolk coast on the 27th of August last. It was an adult female, which had evidently bred during the last season, as was shown by the condition of the ovary and oviduct. He thought that by careful search the Barred Warbler might be ascertained to be a breeding species in the Eastern Counties.

No. XLVIII. (November 29th, 1897).

The forty-seventh Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 17th of November, 1897. *Chairman*: P. L. Sclater, Esq., F.R.S. Twenty-nine Members and four guests present.

The Chairman gave the following address:—

"There is probably no greater test of the interest taken in a particular subject in these days than the establishment of a journal or periodical specially devoted to its cause. This fact is so obvious that I need not stop to give instances of its being the case. On this occasion, therefore, I propose to offer you a few remarks on the present state and progress of the Journals devoted to the special interests of the Class *Aves* throughout the civilized world, and shall begin with the three which, I think, must be acknowledged by all of us to be the leading authorities on the subject, viz.—(taking them in the order of seniority), the 'Journal für Ornithologie' of Berlin, 'The Ibis' of London, and 'The Auk' of the United States of America.

"The 'Journal für Ornithologie' was founded by the veteran ornithologist Dr. Jean Cabanis in 1853, and carried on by him with unfailing success for a period of forty-one years. In 1894 it passed into the possession of the 'Allgemeine deutsche ornithologische Gesellschaft,' and has since that date been not less successfully conducted for that Society by our Honorary Member, Dr. Anton Reichenow, who is personally well known to many of us. The 'Journal für Ornithologie' is, I may fairly say, to a considerable extent occupied with contributions relating to the Avifauna of Central Europe, but, on glancing over its pages, excellent articles will be found throughout the work which relate to the birds of other parts of the world. The newly-founded German colonies have naturally attracted a large share of attention in the Fatherland, and Dr. Reichenow's memoirs on the birds of Togo-land, on the avifauna of German East Africa and on that of Kaiser-Wilhelms-land, recently published in the 'Journal,' may be mentioned specially as being of very great importance. But the German ornithologists by no means confine themselves to the range of their own colonies. German collectors range over the whole world, and German taxidermists are to be found in nearly every museum as well of the New World as of the Old, and not unfrequently become contributors to the information collected in their national Journal of Ornithology. In other branches of our subject, such as Anatomy, Pterylosis, Nomenclature, and Classification, the 'Journal für Ornithologie' will be found to be likewise replete with information.

"To sing our own praises is a somewhat delicate task, but I think I may say that 'The Ibis,' which was begun by the B.O.U. in 1859, six years later than the 'Journal für Ornithologie,' has, in some respects, had even a more striking career than its predecessor. This of course is mainly owing to the unfailing support it has received from the Members of the B.O.U., now upwards of 300 in number, who have grudged neither time nor money in promoting its success. We have now published six series of 'The Ibis,' each extending over a period of six years, and two 'Index' volumes, which greatly facilitate references to the work, while of a seventh series the third volume is already complete, bringing up the work to the close of the present year. Glancing over the sets in our libraries we notice at once that the more recent volumes have evidently increased in bulk, and, we may also hope, have not diminished as regards the value of their contents. The special feature that distinguishes 'The Ibis' is, I think I may say, its cosmopolitanism. Englishmen, as we know, and especially English ornithologists, are scattered over the whole world. Their motto, like that of the Royal Engineers, is 'Ubique'; and although there are always a certain number of communications in 'The Ibis' relating to 'British' Birds, the majority of the memoirs either come from correspondents in foreign countries, or are devoted to the description of collections transmitted to headquarters from travellers in distant lands. For example, taking a look for a moment at the recently completed volume for 1897, we find articles on the Birds of British Burmah, Chili, Morocco, the Pyrenees, Siberia, Guiana, Argentina, China, the Red Sea, the Philippine Islands, San Domingo, Central Madagascar, New Guinea, Zulu-land, Nyasa-land, Oudh, and Spitsbergen. It will be seen that our claims to be cosmopolitan in science, although we are at the same time all British patriots to the backbone, have not been put forward without reason. I will not now stop to describe what has been written in 'The Ibis' in other branches of ornithological research during recent years, but I can assure you that the Editors have done their very best to keep the Journal up to the highest standard.

"The third leading journal in Ornithology—'The Auk'—was established by the American Ornithologists' Union in 1884, and the editorship was assigned to Prof. J. A. Allen, under whose well-ordered sway it still continues. As would naturally be expected, 'The Auk' is mainly devoted to promoting a knowledge of the Birds of the New World, and the greater number of its articles relate to what I am pleased still to call the Nearctic Region, although the zoo-geographers of the United States seem to have lately entered into a conspiracy to abolish the use of that convenient term. Of the activity and intelligent zeal of our American brethren in the cause to which we are all devoted there can be no question. Owing to their enthusiasm, of which 'The Auk' itself is a product, there is probably no part of the world the native birds of which are now so well known as the United States of America. In every part of the Union collections have been made by the correspondents and emissaries of the A.O.U. and transmitted to headquarters, where the specimens have been studied and the results recorded with the utmost diligence. Of late years the American ornithologists have extended their researches into Mexico and Central America. They have also closely surveyed nearly every island of the West Indian Archipelago, and have begun to make winter excursions into the northern borders of South America. On looking into the 14th volume of 'The Auk,' which contains the memoirs published in 1897, we find articles on the birds of Mexico, Guatemala, the Kurile Islands, Venezuela, and Alaska, not to speak of numerous valuable contributions to the study of such questions as nesting-habits, dichromatism, nomenclature, abnormal plumages, and almost every other subject that comes within the grasp of the ornithologist. I may also, perhaps, venture to call special attention to the valuable criticisms on recent literature given in every number of 'The Auk,' which may be always read with profit, even though we may not altogether coincide with the views of the writers.

"Having said so much about the three principal ornithological journals which at the present epoch are devoted to general Ornithology—*i. e.* to the whole subject, and not to any particular part of it,—I think I need hardly trouble you with disquisitions on the recent progress of journals with a less extended object. There are a considerable number of such publications, as a search in the well-stocked library of the Zoological Society will show to those who wish to consult them; and many of them are making valuable contributions to the knowledge of our favourite science. Among these I may specially mention 'Ornis,' the organ of the Permanent International Ornithological Committee, hitherto edited by Prof. Dr. H. Blasius, and published at Brunswick (it is now in its ninth year of publication); the 'Ornithologisches Jahrbuch' of Victor, Ritter von Tschusi zu Schmidhoffen, published at Hallein, now in its eighth year; and 'Aquila,' the organ of the Hungarian Central Bureau for Ornithological

Observations, which was commenced in 1894. It is singular that, so far as I know, there has never been a purely ornithological journal started in France; but Italy has lately started an 'Avicula'—*parva sed omnino Italica*! With hearty wishes for success, in which I am sure you will join me, to this youngest, and likewise to every other member of the confraternity of ornithological journals, I have only to ask your kind excuses for having so long occupied your attention."

Mr. F. G. Jackson, whose return to England was heartily welcomed by the members of the Club, gave an interesting account of the birds observed by him during his three years' residence in Franz Josef Land, and referred especially to the nesting of the Ivory Gull (*Pagophila eburnea*). Specimens of the various species collected by the Jackson-Harmsworth Expedition were exhibited, and Mr. Howard Saunders, in his remarks on the collection, drew special attention to the occurrence of the Lapland Bunting (*Calcarius lapponicus*) at Cape Flora in June, this being the first record of the species in the Franz Josef group of islands.

Mr. Ernst Hartert exhibited, on behalf of the Hon. Walter Rothschild, skins of some highly interesting species of birds from the Tring Museum: *Macgregoria pulchra* and *Astrapia splendidissima* (with the hitherto undescribed female) from New Guinea, *Myiadestes coracina* from Colombia, *Zosterops babelo* from the Talaut Islands, *Scops alfredi* from Flores, and a female of *Eudynamis honorata,* in nearly complete barred plumage, but retaining still some black feathers of the first plumage, when both males and females were entirely black.

Mr. Hartert was also able to announce that good results might shortly be expected from the expeditions despatched by Mr. Rothschild to the Galapagos Islands and the Upper Orinoco.

Mr. Osbert Salvin forwarded descriptions of five species of South-American birds. Four of these were from British

Guiana, whence the specimens had been sent by the late Henry Whitely and received in this country after his death; the fifth was from Mr. Pratt, who was now exploring in the Cauca Valley, Colombia, and had been sent in a collection of birds made at a place called Valdivia, not far from Antioquia, and 3800 feet above the sea-level.

PLATYRHYNCHUS GRISEICEPS, sp. n.

P. seni similis, sed capite summo multo grisescentiore, dorso pallidiore, et abdomine flavescentiore distinguendus. Long. tota 4·2 poll., alæ 2·6, caudæ 1·4, tarsi 0·55.

Hab. Aunai, British Guiana (*H. Whitely*).

Obs. In his last collection the late Henry Whitely sent several specimens of this species. It is closely allied to *P. senex*, Scl. & Salv., of Eastern Ecuador, and, like the latter, has the concealed spot of the crown pure white, but differs in the points mentioned above.

TODIROSTRUM PICTUM, sp. n.

Suprà olivaceum, dorso medio indistinctè nigro striato; pileo toto, nuchâ et capitis lateribus nigerrimis; loris dimidio superiore, et striâ latâ sub oculos ductâ, albis; gulâ albâ, distinctè nigro striatâ; gastræo reliquo flavo, pectore distinctè et hypochondriis indistinctè nigro striatis; alis nigris, secundariis flavo limbatis, tectricibus majoribus et mediis quoque flavo maculatis: caudâ nigricante, extrorsum flavo limbatâ; subalaribus albis: rostro et pedibus nigricantibus. Long. tota circa 3·5 poll., alæ 1·6, caudæ 1·2, rostri a rictu 0·6, tarsi 0·6.

Hab. Aunai, British Guiana (*H. Whitely*).

Obs. This species is apparently allied to *T. guttatum*, and has a similar black head, but there is no broad post-orbital yellow stripe, and the throat and area under the eye are white and not yellow as in *T. guttatum*, in which the chin alone is white.

A single specimen was contained in Whitely's last collection.

HAPALOCERCUS STRIATICEPS, sp. n.

H. flaviventri similis, sed multo minor, dorso magis olivaceo et fusco indistinctè striato; capite summo striato, plumis singulis saturatè fuscis fulvo limbatis, areâ infraoculari

nigricante; alis fuscis, sordido albo bistriatis et remigibus eodem colore extrorsum limbatis: rostri maxillâ corylinâ, mandibulâ pallidâ, pedibus corylinis. Long. tota circa 4·0 poll., alæ 1·6, caudæ 1·6, tarsi 0·65, rostri a rictu 0·5.

Hab. Aunai, British Guiana (*H. Whitely*).

CAPSIEMPIS CAUDATA, sp. n.

C. flaveolæ affinis, sed subtus multo pallidior; torque cervicali et gutture fulvo tinctis; notæo fusco olivaceo tincto; loris et fronte strictè albis; alis fuscis, remigibus albido limbatis, tectricibus majoribus et mediis sordido albido terminatis, fasciis duabus distinctis formantibus; caudâ fuscâ, rectricibus externis in pogonio externo et apicibus albidis; rostro et pedibus nigricantibus. Long. tota circa 4·0 poll., alæ 1·95, caudæ 1·85, tarsi 0·7, rostri a rictu 0·5.

Hab. Ourumee, British Guiana (*H. Whitely*).

Obs. Allied to *C. flaveola*, but readily distinguished by the light outer webs and tips of the outer tail-feathers and by other characters.

CAPITO HYPOLEUCUS, sp. n.

Suprà niger; pileo medio et fronte coccineis; nuchâ sordidè albâ; scapularibus utrinque albicantibus ad dorsum medium convergentibus: subtus albus; torque pectorali pallidè fuscâ; hypochondriis leviter flavo lavatis; subalaribus albis; remigibus intus pallidè fuscis: rostro flavido, apice corneo; pedibus plumbeis. Long. tota 8·0 poll., alæ 3·5, caudæ 2·25, tarsi 1·0, rostri a rictu 1·2.

Hab. Valdivia, State of Antioquia, Colombia (alt. 3800 ped.) (*A. E. Pratt*).

Obs. This remarkable *Capito* has no near allies. In having a wholly white throat it resembles *C. maculicoronatus* ♂, but has not the spotted flanks of that species. Its red crown and the white lines along the scapulars and the dusky band across the chest are also points of difference.

Dr. BOWDLER SHARPE exhibited two skins of an apparently new species of *Sturnopastor* from Pachim and Tahkamen in Siam, collected by Mr. Stanley S. Flower, the Director

of the Royal Museum at Bangkok. He proposed for it the name of

STURNOPASTOR FLOWERI, sp. n.

S. similis *S. superciliari,* sed suprà niger, dorso pileo concolore nec brunneo: gutturis nigredine magis extensa, regione præpectorali quoque nigrâ: corpore reliquo subtùs albo, nec vinaceo-griseo adumbrato. Long. tot. 9·0 poll., culm. 1·3, alæ 4·8, caudæ 2·75, tarsi 1·45.

Dr. SHARPE also made some remarks on the Black-headed Orioles of Africa, and pointed out that the Oriole of Gaboon had been hitherto confounded with *O. brachyrhynchus,* from which it differed in being smaller and in having a conspicuous yellow collar, the yellow also being spread over the mantle. He proposed to call it

ORIOLUS LÆTIOR, sp. n.

Mr. J. I. S. WHITAKER sent for exhibition some specimens of *Sturnus unicolor* procured in Morocco in the spring and summer of the present year. It was evident that the birds killed in June were in the fullest breeding-plumage and had *black* bills, whereas specimens killed in winter and early spring had yellow bills.

Mr. WHITAKER also sent for exhibition skins of two apparently new species of birds from Morocco, which were described briefly as follows:—

GARRULUS ŒNOPS, sp. n.

G. similis *G. minori,* sed minor, et facie laterali et gutture toto vinaceis, minimè albis, distinguendus: pileo latè nigro striolato. Long. tot. 12·2 poll., alæ 6·4.

RHODOPECHYS ALIENA, sp. n.

R. similis *R. sanguineæ,* sed rostro debiliore, superciliis et torque collari cineraceis, nec fulvescenti-albis vel roseis: gutture pallidè roseo, nec cinnamomeo-brunneo distinguenda. Long. tot. 6·0 poll., alæ 4·1.

The CHAIRMAN exhibited an interesting autograph letter of John Latham, addressed to M. Olivier of Paris, and referring to a copy of his 'General History of Birds.' The letter was dated "Dartford, Kent, Nov. 10, 1789," and had been presented to the Chairman by Dr. Jean Cabanis.

He also made some remarks on the birds observed by him in Russia, stating that he had been resident for nearly a fortnight, in August and September last, at a country-house in the vicinity of St. Petersburg, and, though principally occupied with other matters, had not failed to pay attention to the ordinary birds of the district. Putting aside the ubiquitous Sparrow, the most common Passerine bird to be seen there at this time of the year was certainly the White Wagtail (*Motacilla alba*); Spotted Flycatchers, Larks, Yellowhammers, and Siskins were also abundant. The only Thrush seen was *Turdus musicus*; *T. merula*, it was said, was never met with. The ordinary Crow was *C. cornix*, but the Rook (*C. frugilegus*) was likewise observed in flocks on the cornfields along the Baltic Railway. The Great Black Woodpecker (*Picus martius*) was common in the plantations, and specimens were shot while Mr. Sclater was there; and both the Pied Woodpeckers (*Dendrocopus major* and *D. minor*) were said to be frequently met with. For further particulars Mr. Sclater referred enquirers to Dr. Büchner's excellent memoir 'Die Vögel des St. Petersburger Gouvernement,' published in 1886, as the best authority on the subject. The Double Snipe (*Gallinula major*) was the favourite object of pursuit of the sportsman at this time of year, and it was certainly an excellent bird for the table.

Mr. Robert Read exhibited some peculiar varieties of the eggs of the Common Guillemot (*Uria troile*), collected at Flamborough during the past summer, and called attention to the correspondence of their variations with the eggs of the Kittiwake (*Rissa tridactyla*) and of other birds which bred in the same locality.

XIII.—*Notices of recent Ornithological Publications.*

1. *Annals of Scottish Natural History.*

[The Annals of Scottish Natural History, a Quarterly Magazine, with which is incorporated 'The Scottish Naturalist.' No. 23, July 1897, and No. 24, October 1897.]

In No. 23, Mr. Hinxman gives his annual report on "The Movements and Occurrences of Birds in Scotland during 1896," and expresses his satisfaction at the increased number (34) of schedules sent in, as against 20 in 1895. One of the rarities is the Lesser Whitethroat (*Sylvia curruca*), the record of which is hidden away under *S. cinerea* on p. 142; but on turning to p. 160 we find that (the late) Mr. Allan Briggs, in his valuable "Notes from North Ronaldshay," had obtained two examples in the autumns of 1893 and 1896 respectively. This Warbler is new to the Orkneys and has only once been recorded in the northern half of Scotland, namely near Aberdeen. Some other rarities have been already noticed, but a Squacco Heron (*Ardea ralloides*) on North Ronaldshay deserves mention. Passing over some contributions of smaller importance, we come to No. 24, which opens with a useful paper on the birds of the Upper Ward of Lanarkshire. The Rev. H. A. Macpherson writes upon the Spotted Redshank, which appears to be a very rare bird in any part of Scotland except on the east coast; Mr. R. Service gives an interesting account of the Tufted Duck in the Solway district and its great increase as a breeding species during the last ten years; and there are some valuable records among the Notes. From 'The Field' we had already learned that two Bee-eaters had been seen in Caithness on May 12th, and that one of them was shot; but though this natural sequel is not mentioned here by Mr. Lewis Dunbar, we are told that "one of them was seen a few days afterwards attacking bees,"—it was probably an hungred. A most circumstantial account is given of the nesting in the rocks of Strathardle "from time immemorial" of the Alpine Swift, distinguished unmistakably from the Common Swift by its white belly—as it should be; after which the Editors have the courage to say that they have the gravest doubts as to the correctness of the identification of the species. An occurrence of the Red-footed Falcon in Aberdeenshire is recorded; while the adoption by the Merlin of an old nest of a Crow in a tree, as a receptacle for its eggs in two successive years, is given as an illustration of the well-known partiality of this species for a haunt it has formerly occupied. As regards the particular pair, the partiality can no longer be shown, for the gamekeeper, who only managed to kill the female last year, has succeeded in 1897 in destroying the couple, and with them ends for the present the scanty list of the breeding of this species in trees, in Great Britain. The gun has been busy among the Raptores, for a couple of Honey-Buzzards were shot on the Findhorn on the 2nd of September last.

2. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. XIV. Nos. 3, 4, July & October, 1897.]

Among the papers in the July number of our contemporary the first in order is a Study of *Vireo philadelphicus* by Dr. Jonathan Dwight, illustrated by a coloured plate. Dr. Elliott Coues follows with remarks on the nomenclature of the Turkeys, expressing his conviction that the A.O.U. Check-List has erred in assigning the name *Meleagris gallopavo* to the North-American bird, and maintaining, in accordance with Mr. Ogilvie Grant (Cat. Birds Brit. Mus. xxii. p. 387), that the name properly belongs to the species which inhabits Western Texas, New Mexico, Arizona, and North Mexico. Mr. Gerritt S. Miller, Jun., discourses on abnormal colour-markings. Mr. Mackay has an interesting article on the Terns of Penikese Island, Massachusetts, and he deplores the wholesale robbery of eggs by fishermen and others; the species found breeding were the Common and Roseate Terns. It is convenient to mention here that the same writer has a similar paper on the Terns of Muskeget Island in the October number. Mr. E. A. McIlhenny contributes a list of 73 species of birds which frequent the lakes and coast of Louisiana; while Mr. W. Palmer records the capture in Washington City, after the great gale in August 1893, of two examples of *Oceanodroma cryptoleucura,* originally supposed to be Leach's Petrel. Mr. Joseph Grinnell describes *Pipilo clemente,* sp. n., from Clemente Island, California; Mr. C. Oberholser characterizes *Empidonax insulicola,* sp. n., from Santa Barbara; while Mr. F. M. Chapman's 3 new subspecies from Arizona and Mexico may be left for the Recorder of "Aves" to mention. In the General Notes, Nomenclature comes on again. Dr. J. A. Allen says that the proper generic name for the Loons (Divers) is *Gavia,* and that the name Urinatoridæ, adopted as a family name in the very last edition of the A.O.U. Check-List, should be changed to Gaviidæ. On the other hand, Dr. Coues speaks of *Gavia* as a "derelict term" adopted by the A.O.U., "on the strength of Dr. Stejreger's misrepresentations," for the Ivory Gull (*Pagophila eburnea*). We cannot venture to epitomize his remarks upon the misuse of *Haliplana* in the A.O.U. List, instead of *Onychoprion*; nor can we follow him in his observations upon the names adopted for some of the Procellariidæ; suffice it to say that he gives a good shaking to the publication which bears as its motto:—"Zoological Nomenclature is a means, not an end, of Zoological Science." Nevertheless, on p. 402 we find "*Gavia adamsi*" (our *Colymbus adamsi*) over the name of Dr. Coues, so that concord has been attained, and a haven has been found for the "derelict."

In the October number the frontispiece illustrates a paper by Mr. C. W. Richmond, "The Western Field-Sparrow (*Spizella pusilla arenacea*)"; and this is followed by the first instalment of Notes on the birds of Fort Sherman, Idaho, by Surgeon J. C. Merrill, of the U.S. Army. A list by Mr. W. H. Phelps of 140 species observed in Venezuela, from Cumaná almost to the Orinoco lowlands, is supplemented by notes from Mr. F. M. Chapman, who describes as new species *Elainea albiventris* and *Sittasomus phelpsi.* Passing over three papers, each containing a description of a subspecies, we may notice a short paper by Mr. Ernest Seton Thompson on the Directive Coloration of Birds, with a plate showing that the colours of the upper parts are Protective, while those of the underparts — which are exposed in flight — are Directive. The species figured are all northern Hawks and Owls; a good deal of importance being attached to the presence—or absence—of the "wrist-spot" on the underside of the expanded wing.

3. *Buller on the Ornithology of New Zealand.*

[Notes on the Ornithology of New Zealand. By Sir Walter L. Buller, D.Sc., K.C.M.G., F.R.S. Trans. New Zeal. Inst. xxix. p. 179, 1896.]

Sir Walter Buller's most recent notes on the birds of New Zealand (read before the Wellington Philosophical Society on the 17th of February 1896) contain a quantity of new information which will be available for his promised handbook on the birds of that country. They are prefaced with an account of the successful reception accorded by many eminent naturalists to his 'Illustrations of Darwinism' (*cf.* Ibis, 1895, p. 390), which Mr. Wallace, Sir Joseph Hooker, Professor Parker, and other well-known scients unite in praising.

Although several more species of New Zealand birds are recorded as now probably extinct, we are glad to see that such rarities as *Xenicus longipes* and *Thinornis novæ-zealandiæ* are still occasionally met with. *Phalacrocorax stictocephalus* of Australia is now authentically registered for the first time as an occasional visitor to New Zealand. Sir Walter gives an interesting account of a visit to a breeding-place of the Gannet of the Southern Seas (*Dysporus serrator*), at Cape Kidnappers. The colony, on a small plateau about 200 feet above the sea, was occupied by over a thousand nests of this species, so crowded together that "it was difficult to step between them." A specimen of the rare Penguin *Eudyptes vittatus* of Finsch was obtained on Stewart Island. A pair of the little-known large *Apteryx lawryi* Rothschild was met with in the same island, and the egg was also procured; it measures 5·4 inches by 3·25, and is "perfectly elliptical."

4. *Cooke's 'Birds of Colorado.'*

[The Birds of Colorado. By W. W. Cooke. State Agricultural College, Bulletin no. 37, 1897.]

Mr. Cooke's list of the 365 birds of the State of Colorado as yet known, with his remarks on the mode and date of their occurrence and other particulars, seems to be a useful and well-prepared piece of work. It is arranged according to the order and nomenclature of the American Code, and is accompanied by a complete Bibliography of Colorado Ornithology. Mr. Cooke asks us to say that copies of it may be obtained gratis by addressing the Director of the Agricultural Experiment Station, Fort Collins, Colorado, U.S.A.

5. *Forbes and Robinson on the Parrots of the Derby Museum.*

[Catalogue of Parrots in the Derby Museum. By H. O. Forbes and H. C. Robinson. Bull. Liverpool Mus. vol. i. no. 1, p. 5.]

The energetic Director of the Liverpool Museums has started a new periodical "to make known the contents of the municipal Museums, to publish the results of the investigations carried on in the laboratories attached to them, and to record the observations made on the animals living in the Aquarium." The introductory remarks in the first number give an account of the scope and history of the municipal Museums, of which the "Derby" Museum contains the Zoological, Botanical, Mineralogical, and Geological Collections and an Aquarium. The Derby Museum is, as well known, rich in birds, containing among other series the collection of the thirteenth Earl of Derby, formerly at Knowsley, and the recently-acquired "Tristram Collection" (*cf.* Ibis, 1897, p. 488). Dr. Forbes, aided by Mr. H. C. Robinson, is now engaged in arranging and cataloguing the whole collection of birds, and in the first number of the 'Bulletin' gives us a catalogue of the specimens of Parrots in it. The arrangement and nomenclature of the B. M. Catalogue are followed. It is shown that the Derby Museum contains 1258 specimens of this order, referable to 325 species. Two excellent coloured plates contain figures of *Nestor norfolcensis, Coriphilus tahitianus,* and *Nasiterna nanina.*

6. *Goeldi on the Vultures of South America.*

[Rot- und gelbköpfige Aasgeier Sudamericas (*Cathartes aura, C. urubitinga*). Von Dr. E. A. Goeldi, Museums Director in Pará. Sep. Abdr. aus Schweiz. Blätter für Ornithologie. Zürich, 1897.]

We know as yet very little about the yellow-headed Turkey-Buzzard of South America (*Cathartes urubitinga* of Natterer), and Dr. Goeldi now gives us some interesting information on this much neglected bird, although he has not yet discovered the mystery of its nesting. It seems to be mainly a fish-eater, subsisting, however, rather on dead fishes than living ones, and to be consequently found usually in the vicinity of water. In the neighbourhood of the city of Pará and on the adjacent islands in the Amazons-stream, Dr. Goeldi tells us, it is by no means uncommon.

We agree with Dr. Goeldi that there are only three good species of *Cathartes*—putting aside *C. californianus* (which may perhaps be referred to another genus)—namely, *C. aura, C. urubitinga,* and *C. atratus,* and that several of the species allowed in the first volume of the British Museum Catalogue are invalid. But it is not quite the case, as he alleges, that no one has noticed *C. urubitinga* since the days of Natterer. The yellow-headed *Cathartes* has been received alive at the London Zoological Gardens more than once. It is duly recognized in the Catalogue of Vertebrates (see ed. 8, p. 392, and ed. 9, p. 406), and its name is registered in Sclater and Salvin's 'Nomenclator.' When seen alive, its distinctness from *C. aura* is at once apparent.

7. *Hartert on Doherty's Collections from the Eastern Archipelago.*

[An Account of the Collections of Birds made by Mr. William Doherty in the Eastern Archipelago. By Ernst Hartert. Novitates Zool. iii. p. 537, 1896.]

Mr. William Doherty appears to have become a most successful bird-collector, and we have here an account of the many specimens that he has recently obtained for the Tring Museum in various localities in the Eastern Archipelago. In Eastern Java, south of Surabaya, where Mount Arjuno was ascended, examples of 24 species were collected, among which was a new genus and species of Timeliidæ—*Stasiasticus montis.* [Mr. Rothschild here establishes in a footnote a new genus for the so-called *Sphenœaci* of New Zealand, which he proposes to call *Bowdleria.* No exact type of this genus is mentioned.] From Java, Mr. Doherty proceeded to Bali, and obtained examples of 94 species, of which a list is now given—being the first list of the birds of this island, where Wallace (the only previous visitor) stayed but two days. Mr. Hartert describes as new *Gracupica tertia, Rhinomyias pectoralis baliensis, Carpophaga williami,* and *Ptilonopus albocinctus baliensis.* The avifauna of Bali is essentially Javan, but it is now certain that a *Ptilotis* (*P. limbata*) occurs there, and that Cockatoos are occasionally found in the south-eastern peninsula of the island. There is no question, therefore, of some Australian elements being present in Bali.

Crossing Wallace's Line, Mr. Doherty arrived at Lombok, and made a good collection of birds here too, during a fortnight's stay. Mr. Hartert refers them to 64 species. Of these *Geocichla dohertyi, Chlorura intermedia,* and *Carpophaga sasakensis* are characterized as new. It is a great satisfaction to have discovered the real home of *Trichoglossus mitchelli,* which was originally described from a specimen living in the Zoological Society's Gardens. Mr. Doherty collected a large series of this beautiful Lory in the hills of Lombok.

Sambawa, Mr. Doherty's next stopping-place, is a still more interesting locality; the birds being previously known only from a few specimens obtained long ago by Forster, and from a short visit paid to it by Dr. Guillemard during the voyage of the 'Marchesa.' Mr. Doherty visited two stations, and obtained examples of 65 species. Of these *Lophozosterops* (gen. nov.) *dohertyi* and *Macropygia ruficeps orientalis* are described as new.

Satonda, never previously visited by a naturalist, lies three miles off the coast of Northern Sambawa. Mr. Doherty obtained examples of 14 species in this island.

Lastly, Mr. Doherty went to Sumba, formerly known as Sandalwood Island, of which little-known land extracts from his letters and papers given in the present article contain many interesting particulars. Sumba, being outside the long chain of islands extending from Java eastward, is of special zoo-geographical importance, and Mr. Doherty's collection adds materially to our knowledge of its avifauna.

Mr. Hartert refers his specimens to 63 species, among which the following are now described as new:—*Cinnyris buettikoferi, Edoliosoma dohertyi,* and *Rhipidura celebensis sumbensis,* besides 3 new species already characterized in the Bulletin of the B.O.C. (see Ibis, 1896, pp. 566, 567). Here also was ascertained to be the *patria* of the long-lost *Eclectus cornelia,* and the unknown male was discovered.

This memoir, which is illustrated by two excellent plates representing *Pericrocotus lansbergi, Geocichla dohertyi,* and *Ptilinopus dohertyi,* makes a most valuable addition to our knowledge of the avifauna of the Sunda Islands.

8. *Hartert on Birds from Lombok.*

[List of a Collection of Birds made in Lombok by Mr. Alfred Everett. By Ernst Hartert. Novitates Zool. iii. p. 591.]

The birds collected in Northern Lombok by Mr. A. Everett from May to the beginning of July 1896 are described in this paper, which also gives Mr. Everett's excellent notes on the island generally, and on the individual birds. Examples of 103 species were obtained, amongst which were many new to the avifauna of the island.

Although some zoologists have lately denied the importance of Wallace's Line, Mr. Hartert, judging from the collections recently made by Mr. Doherty and Mr. Everett, has come to the conclusion that the "differences between the Ornises of Bali and Lombok are remarkably conspicuous, and indeed much more so than those between the Ornises of Lombok and Sambawa or Sambawa, Flores, and Sumba."

9. *Lee's Photographs of British Birds.*

[Among British Birds in their Nesting-Haunts, illustrated by the Camera. By Oswin A. J. Lee. Pts. VI.–VII. 4to. Edinburgh: Douglas. 1897.]

The species figured in their breeding-haunts in Parts VI. & VII. are:—*Ardea cinerea* (3 plates), *Loxia curvirostra*, *Falco tinnunculus*, *Saxicola œnanthe* (2), *Sylvia cinerea*, *Sula bassana* (2), *Uria troile* (2), *Anas boscas* (2), *Alca torda*, *Fratercula arctica* (3), *Parus cristatus*, *Mergus serrator*.

The second plate of the Heron with the old bird on her nest, the Crossbill's nest, the Whitethroat's, and the Mallard's, may be specially selected for commendation. The vignettes are, as before, very spirited, though some are rather heavy. The letterpress is up to the standard.

10. *Le Souëf on Birds of Northern Queensland.*

[A Trip to the Bloomfield River District, North Queensland. By D. Le Souëf. Read before the Field-Naturalists' Club of Victoria, 8th March, 1897.]

After his trip to Mount Peter Botte (see Ibis, 1897, p. 618), Mr. Le Souëf made other excursions in the Bloomfield River District, of which he gives us a lively account in the present paper. His allusions to birds are numerous, and in many cases of considerable interest. In the Hope Islands, just off the coast, the Torres-Straits Fruit-pigeon (*Carpophaga spilorrhoa*) was found breeding on the mangroves in thousands; they make a substantial nest, and lay but one egg. In the open forest-country on the mainland, several nests of the Superb Fruit-pigeon (*Ptilopus superbus*) were met with. In every case the *male* bird was found sitting. Near Mr. Gibson's homestead, the Square-tailed Kite (*Milvus isurus*) was numerous, and a bower of the Larger Bower-bird (*Chlamydodera orientalis*) was inspected. It was 3 feet long, and was ornamented with small bones. Near Wyalla, three nests of the Papuan Podargus (*Podargus papuensis*) were taken. They were placed on the horizontal branches of the eucalyptus-trees, and each contained one egg only.

11. *Lloyd on the Nesting of Guianan Birds.*

[Nesting of some Guiana Birds. By C. A. Lloyd. Timehri, vol. xi. n. s., p. 1. 1897.]

Mr. Lloyd, having been assisted on the present occasion by Mr. Barshall—"a keen observer of Nature, who has resided for over twenty years among the Indian tribes in the interior,"—gives us a series of most interesting but too short notes on the nesting-habits of some of the Guianan birds. *Tityra cayana* deposits its eggs in the mounds made by termites! *Crypturus variegatus* makes no nest, but deposits its *single* egg on the ground at random; whereas another Tinamoo (*Tinamus subcristatus*) lays 8 or 10 eggs in a shallow nest lined with dry leaves. *Psophia crepitans* was found nesting in a hole in the fork of a tree, 20 feet from the ground, and had laid seven dirty-white eggs, a trifle smaller than those of the Common Fowl (*cf.* Blaauw, Bull. B.O.C. v. p. xviii). Mr. Barshall confirms Dr. Goeldi's discovery of the parasitism of *Cassidix oryzivora*, and says that it deposits its eggs in the nests of *Cassicus affinis* and *C. persicus*. Mr. Lloyd has himself taken the eggs of this bird from the nests of *Ostinops decumanus*. According to Mr. Barshall, the burrows of the Armadillo and Paca (*Cœlogenys paca*) are resorted to by the Red-billed Puff-bird (*Monacha nigra*) as nesting-places. The Scarlet Ibis (*Eudocimus ruber*) makes no nest for itself, but takes forcible possession of the nest of the Small White Egret (*Ardea candidissima*). Verily there is much yet to be learned of the queer ways of the birds of the Neotropical Region.

12. *Madarász on Birds from New Guinea.*

[Sammel-ergebnisse Ludwig Birós in Neu-Guinea. Vögel. Bearbeitet von Dr. Julius v. Madarász. Term. Füz. xx. p. 17. 1897.]

To fill the place vacated by the death of Fenichel (see Ibis, 1894, p. 548), the authorities of the Hungarian National Museum have sent out another naturalist, Ludwig Biró, to Kaiser-Wilhelm's Land to continue the researches which Fenichel commenced. Dr. v. Madarász now gives us an account of Biró's first collection, which embraces examples of 64 species. Of these 28 were not obtained by Fenichel, and one Fruit-pigeon (*Ptilopus biroi*) is described and figured as new. It is nearest to *P. jobiensis*.

13. *Madarász on Birds from Ceylon.*

[Die ornithologischen Ergebnisse meiner Reise nach Ceylon. Von Dr. Julius v. Madarász. Budapest, 1897. (Term. Füz. vol. xx.)]

Dr. Madarász undertook a zoological expedition to Ceylon in 1896 on behalf of the Hungarian National Museum, and, with the assistance of his staff, made large collections, which were mostly amassed at a bungalow on Lake Kalawewa, in the centre of the island. The 294 specimens of birds thus obtained are referred in the present paper to 125 species, concerning which many interesting notes are given. The Indian ornithologists, and in particular Capt. Legge by his excellent Monograph, have made the birds of Ceylon well known to naturalists, but Dr. Madarász is able to contribute some few corrections in the determination of them. Three plates supply figures of the heads of *Polioaëtus ichthyaëtus*, *Spizaëtus melanotis*, *Ocyceros gingalensis*, *Rhopodytes viridirostris*, and *Hydrophasianus chirurgus*, coloured from life, and of the heads and feet of *Plotus melanogaster* (adult and young), of which a colony was found breeding on Lake Kalawewa.

14. *Marchant and Watkins's Wild Birds Protection Acts.*

[Wild Birds Protection Acts 1880–1896. By J. R. V. Marchant, M.A. (Oxon.), of Gray's Inn, and Watkin Watkins, B.A. (Cantab.), of the Inner Temple, Member of the British Ornithologists' Union; both of the Oxford Circuit, Barristers at Law. Second edition. 8vo. London, 1897 (R. H. Porter).]

Messrs. Marchant and Watkins have conferred a benefit on ornithologists by the issue of this volume, the object of which is "to explain the provisions of the Wild Birds Protection Acts now in force, and of the Statutory Orders made at the instance of local authorities under these Acts." The whole subject is a most complicated one, but we think that an attentive study of the 174 pages contained in the present work will be of material assistance to those who wish to understand it.

15. *Meyer and Helm's Reports on the Birds of Saxony.*

[VII.–X. Jahresbericht (1891–94) der ornithologischen Beobachtungstationen im Königreiche Sachsen, bearbeitet von A. B. Meyer und F. Helm. Nebst einem Anhange: Die sonstige Landesfauna betreffende Beobachtungen. 4to. Berlin: Friedländer, 1896.]

This valuable series of Reports was last noticed in 1893 (Ibis, 1893, p. 141). Four more years, 1891–94, are now issued in one memoir, arranged as before. Four more species are now added to the Saxonian avifauna—*Ægialitis hiaticula*, *Calidris arenaria, Larus fuscus,* and *Sterna anglica.* Two others, previously uncertain, are confirmed—*Aquila clanga* and *Buteo desertorum.* There are therefore now 280 species in the Saxonian list against 357 in Homeyer's List of German Birds.

16. *North's Notes on Australian Birds.*

[(1) On a new Subspecies of *Psophodes crepitans.* By Alfred J. North, C.M.Z.S. Records Austral. Mus. iii. p. 13.

(2) Description of a new Species of *Collyriocincla* from Queensland. By Alfred J. North, C.M.Z.S. *Ibid.* p. 49.

(3) On the Extension of the Range of *Calamanthus fuliginosus* and *Emblema picta* to New South Wales. *Ibid.* p. 14.

(4) On a Curious Nesting-site of *Anthus australis. Ibid.* p. 15.

(5) On the Nidification of *Megaloprepia magnifica* and the Magnificent Fruit-Pigeon. *Ibid.* p. 16.]

Mr. North continues to publish useful notes on Australian birds in the 'Records of the Australian Museum.' *Psophodes crepitans lateralis,* subsp. nov., is a form of *P. crepitans* from N.E. Queensland. *Calamanthus fuliginosus* and *Emblema pictum* have been found in New South Wales. *Megaloprepia magnifica* has been discovered breeding on the Upper Clarence and its nest and egg obtained—it lays only one.

17. *North on the Insectivorous Birds of New South Wales.*

[A List of the Insectivorous Birds of New South Wales. By Alfred J. North, C.M.Z.S. (Dept. of Agricult., Sydney, Miscell. Publ. No. 128. 1897.]

Mr. North continues his list (with notes) of native insectivorous birds drawn up for the Agricultural Department of the Government of New South Wales (see 'Ibis,' 1897, p. 279), from the 64th to the 103rd species. Four coloured plates contain figures of *Malurus melanocephalus, M. cyaneus, Acanthiza nana, A. chrysorrhea, Ephthianura aurifrons, E. albifrons, Mirafra horsfieldi*, and *Anthus australis*.

18. *Oliver's Translation of the Voyages of the Sieur D. B.*

[The Voyages made by the Sieur D. B. to the Islands Dauphine or Madagascar and Bourbon or Mascarenne in the years 1669-70-71 & 72, translated and edited by Captain Pasfield Oliver, late R.A. London: Nutt, 1897. 1 vol. 8vo. 160 pp.]

Capt. Oliver has now published his translation of the voyage of the Sieur D. B., on which he has been engaged for some time (see 'Ibis,' 1896, p. 393). When Strickland first mentioned the existence of this work he did not know the real name of the author nor that it had ever been printed, but quoted a MS. copy belonging to the Zoological Society of London. This was, however, merely a transcript of the original, which is a rare duodecimo volume published by Bardin at Paris in 1674. The book will delight the lover of ancient travels, and is specially interesting to ornithologists as containing one of the few existing accounts of the Bourbon Solitaire and other birds of that island as Sieur Dubois saw them in 1670. We transcribe the passage about the Solitaires (*Didus* (?) *borbonicus*, Salvad. Cat. B. xxi. p. 635) for the benefit of our readers:—

"These birds are thus named because they always go alone. They are as big as a big Goose, and have white plumage, black at the extremity of the wings and of the tail. At the tail there are some feathers resembling those of the Ostrich. They have the neck long, and the beak formed like that of Woodcocks, but larger; the legs and feet like those of

Turkey-chicks. This bird betakes itself to running, only flying but very little. It is one of the best game of the island."

19. *Reichenow on the Birds of Kaiser-Wilhelm's Land.*

[Zur Vogelfauna von Kaiser-Wilhelm's Land. Von Ant. Reichenow. J. f. O. July, 1897.]

After a short account of the recent expedition of Dr. Lauterbach, Dr. Kersting, and Herr Tappenbeck into the interior of Kaiser-Wilhelm's Land, the author gives an account of the birds obtained, which are referred to 57 species. A complete list of the species as yet recognized in this part of New Guinea is added. They are 205 in number. Coloured figures are given of *Paradisea maria* and *Chlamydodera lauterbachi*.

20. *Rothschild and Hartert on Papuan Birds.*

[Contributions to the Ornithology of the Papuan Islands. By the Hon. Walter Rothschild and Ernst Hartert. Novitates Zool. iii. p. 530.]

This paper gives an account of specimens of birds collected from April to June on Mount Victoria, Owen Stanley Range, at elevations of from 5000 to 7000 feet, and enumerates 34 species. *Ptilotis salvadorii* is described as new; and the acquisition of an adult male and an immature male of *Cnemophilus macgregoriæ* de Vis (of which only one specimen was previously known) is recorded.

It also gives a list of 43 species of birds collected in the Aru Islands by Capt. Cayley Webster, and remarks appended. *Syma torotoro tentelare* is a new subspecies.

21. *Salvadori on Birds from Bolivia and Argentina.*

[Viaggio del Dott. Alfredo Borelli nel Chaco boliviano e nella Repubblica Argentina. VII. Uccelli. Per Tommaso Salvadori. Boll. Mus. Zool. ed Anat. Comp. R. Univ. Torino, xii. no. 292.]

Count Salvadori writes on the birds collected by Dr. Alfredo Borelli in the northern provinces of Argentina and the adjacent Chaco of Bolivia in 1895 and 1896. Dr. Borelli brought home 696 birdskins, which are referred by the author to 213 species. Of these seven are described as new—*Buarremon borellii, Euscarthmus viridiceps, Phyllomyias berlepschi, Serphophaga inornata, Sublegatus frontalis, Leptoptila callauchen,* and *L. saturata.* Dr. Borelli also obtained in the province of Jujuy an example of the rare Humming-bird *Eriocnemis glaucopoides,* of which only one example was previously known, and has added 26 species to the Argentine and 38 to the Bolivian avifauna.

22. *Sharpe's 'Monograph of the* Paradiseidæ.'

[Monograph of the *Paradiseidæ,* or Birds of Paradise, and *Ptilonorhynchidæ,* or Bower-Birds. By R. Bowdler Sharpe, LL.D., F.L.S., &c. Part VII. Folio. London: H. Sotheran & Co., 1897.]

The seventh part of Dr. Sharpe's splendid monograph contains illustrations of the following species:—

Craspedophora alberti.
Seleucides nigricans (2 plates).
Macgregoria pulchra.
Paradisea minor (2 plates).
Parotia carolæ.
Pteridophora alberti.
Loboparadisea sericea.
Ælurœdus melanocephalus.

Of these we pronounce *Pteridophora* to be the most wonderful—it is, in fact, probably the most remarkable bird in existence. It is hardly possible to imagine the ages of "sexual selection" that would be required to develop the male's extraordinary plumes. *Loboparadisea sericea* is, we suspect, a young or female of an unknown male.

23. *Shufeldt on Fossil Bird-bones from Tennessee.*

[On Fossil Bird-bones obtained by Expeditions of the University of Pennsylvania from the Bone-caves of Tennessee. By Dr. R. W. Shufeldt. Amer. Nat., July, 1897.]

The author describes a small collection of subfossil bones obtained by Mr. H. C. Mercer while in charge of explorations for the University of Pennsylvania in the bone-caves of Tennessee. They belong to species still, or until recently, abundant in North America, of which eight are determinable. They embrace numerous bones of the Turkey, which Dr. Shufeldt refers to *Meleagris gallopavo,* though it appears that Prof. Cope has described at different times three alleged species of Turkey—*M. antiquus, M. altus,* and *M. celer.*

24. *Stolzmann on the Birds of Ferghana.*

[Oiseaux de la Ferghana d'après les recherches faites par M. Thomas Barey (1892–1895). Par Jean Stolzmann. Bull. Soc. Imp. de Natural. Moscou, 1897, no. 1, p. 54.]

M. Stolzmann writes on the birds collected in the Transcaspian province of Ferghana by M. Thomas Barey of the Museum Branicki of Warsaw, and refers them to 189 species. Of these four are now for the first time introduced into the list of species of the Russian Empire—namely, *Coccothraustes humii, Pyrrhospiza punicea humii, Carpodacus grandis,* and *Columba leuconota.*

25. *Townsend on a new American Eagle.*

[Description of a new Eagle from Alaska and a new Squirrel from Lower California. By C. H. Townsend. Proc. Biol. Soc. Washington, xi. p. 145.]

The Alaskan form of *Haliaëtus leucocephalus* is separated subspecifically as being "considerably larger," under the name *H. l. alascanus*!

26. *Whitlock on the Migration of Birds.*

[The Migration of Birds: a Consideration of Herr Gätke's Views. By F. B. Whitlock. 8vo. London: R. H. Porter, 1897.]

The majority of working ornithologists were well aware that the great value of the late Herr Gätke's work consisted in his personal observations on Heligoland, and they also knew that he could not be trusted with regard to figures. Mr. Whitlock has chosen to analyse the "billions," "millions," "myriads," "velocity of flight," &c., of the octogenarian with perfect seriousness—a task from which older ornithologists have shrunk; and if his remarks have given pain here, they have, on the other hand, given pleasure to some readers in America. As regards the much-discussed Northern Bluethroat, Mr. Whitlock should know that there is no weight in the statement, in Arévalo's compilation, that the red-spotted form had been obtained at Valencia and Malaga. The assumption that "the Crane breeds only very locally and very sparingly in Spain" is only borne out in Col. Irby's well-known work with the important qualification that it is ceaseless persecution which is driving the birds from the places where in years gone by "they used to nest in great numbers." Moreover, the only marshes in Spain known to ornithologists are those of Andalucia, for men go like sheep to the ground discovered thirty years ago, and no one has any idea of what there may be on the Upper and Lower Guadiana. There are a good many crudities in Mr. Whitlock's criticisms.

XIV.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis.'" Count Arrigoni Degli oddi's letter was accidentally omitted in our last number, for which we owe him many apologies.

Sirs,—In the last volume of 'The Ibis' Mr. Sushkin has described a new Palæarctic Goose under the name of *Anser neglectus*, from specimens obtained by him in the East of Russia. I beg leave to call your attention to an apparently similar specimen in Count Ninni's collection in the Museum of the city of Venice. On the label it is marked as a "female, killed in February, 1890, in our lagoons." The following are the characters that distinguish it from a typical *A. segetum*:—Bill much more slender, under mandible less curved in the middle portion, the nail more curved, the horny teeth small, the light colour on the bill extending beyond the nostril; white feathers around the frontal angle, and also two white marks at the base of the upper mandible; the colour of the head and neck darker, especially in the hinder parts; upper parts darker, the edges of the dark-coloured feathers of the upper parts and flanks browner; a little white spot on the chin; underparts of a darker greyish tint; the white of the lower abdomen also less pure.

The size is about the same as that of *A. segetum*, but I cannot give the precise dimensions, the bird being stuffed; the bill from the gape measures 2·3 inches, the tarsus 2·8 inches, the middle toe with claw 2·9 inches.

This specimen seems to possess all the characters ascribed by Mr. Sushkin to his *A. neglectus* as regards the form of bill, the colour of head and neck, the white marks on the maxilla, &c. The only difference I find is the flesh-colour of the middle portion of the bill and of the feet. The specimen has been stuffed a long time and the colour is faded, but these parts have not been artificially coloured, nor does any information on this point exist on the label.

This specimen, I must say, is particularly noticeable, because it put us in the following dilemma: either the flesh-colour on the bill and feet did not formerly exist, and it was certainly an example of *A. neglectus*; or these parts had the colour of *A. segetum*, and then the supposed new species would be different from it only by this character (see Mr. Sushkin's diagnosis), and the other characteristic features put forward by Mr. Sushkin would be of slight importance.

Knowing how many and what individual variations the various species of the group *A. segetum* offer, I dare not pronounce an opinion of the validity of the new species, which I know only through the description of Mr. Sushkin. I have thought it worth while, however, to inform you of the existence of this interesting specimen, and if further comparisons shall decide its identity with *Anser neglectus* (in case the validity of this species should be acknowledged), the important fact that Italy is on the line of its migrations will be settled.

Yours &c.,
E. Arrigoni Degli oddi.

Caoddo, near Monselice, Padua, Italy,
May 31st, 1897.

Sirs,—It has been pointed out to me by Mr. C. W. Richmond, of the U.S. National Museum, that the term *Oreospiza*, which I have proposed (see Ibis, 1897, p. 338) for a new genus of Fringillidæ from New Guinea, has been previously employed in ornithology for a North-American Finch (see Ridgway, Manual N. Amer. B. ed. 2, p. 605). I therefore wish to change this term to *Oreostruthus*. The New-Guinea bird will, therefore, in future stand as *Oreostruthus fuliginosus*.

Yours &c.,
C. W. de Vis.

Brisbane, Queensland,
Sept. 4th, 1897.

Sirs,—A remarkable misapprehension as to the positions usually assumed by the Penguins when on land appears to have gained ground among naturalists. Both Dr. Morrison Watson, in his Report on the Anatomy of the Spheniscidæ ('Challenger' Reports,' Zoology, vol. vii. p. 237), and Dr. H. Gadow, in his contribution to Bronn's 'Thier-reich' (vol. vi. Abth. 4, Aves, Syst. Theil, pp. 124, 126), state that these birds are plantigrade—applying the tarso-metatarsus as well as the toes to the ground when walking.

That this is an error will be evident to any one examining the fine series of living Penguins which has been exhibited at the Zoological Society's Gardens this summer. This comprised, on the occasions on which I inspected it, three examples of *Spheniscus demersus*, two of *Eudyptula minor*, and one each of *Aptenodytes pennanti*, *Eudyptes chrysocome*, and *E. sclateri*—a good representative collection.

These birds, which I observed with especial care, all walked in the ordinary digitigrade position common to birds in general, their weight being supported mainly or entirely by the toes.

When at rest, also, these birds usually stood up on their toes, though I have seen the plantigrade position occasionally assumed by all the species except the two "Rock-hoppers."

But this latter was certainly not the *ordinary* standing position, as is stated by Professor A. Newton in his 'Dictionary of Birds' (art. *Penguin*, p. 705), where the gait of Penguins when in motion is described correctly.

I noticed, indeed, that the King Penguin remained erect on its toes even when it had the head turned over the back in the sleeping posture; while one of the little Blue Penguins, by having sores or "corns" on the pad at the base of the toes, plainly showed that it had habitually stood in this position when at rest.

No doubt the distal end of the tarso-metatarsus enters into the support of the Penguins when standing and walking, but the idea that they *constantly* support themselves on the whole length of this bone is quite a mistake, and when they occasionally sit down on their "hocks" they are doing no more than many other birds do—Adjutants and Cassowaries, for example.

The misconception would appear, from Dr. Watson's note (*loc. cit.*), to have originated with C. Geoffroy nearly a hundred years ago ("Note sur les Manchots," Bulletin de Sciences par la Société Philomathique, Paris, 1798, vol. i. p. 81), and it is to me a matter of wonder that it should have endured so long, considering that Penguins have frequently been kept in confinement and have been correctly figured. The Guillemot (*Lomvia troile*) appears to be generally plantigrade, but this is not the case with any other diving-bird, so far as I have seen.

Yours, &c.,
Frank Finn.

30 Trebovir Road, Earl's Court, London,
October 13th, 1897.

Sirs,—The visits which *Fuligula rufina* pays to the British Isles are so occasional, and at such considerable intervals, that the occurrence of a male of this species in the heart of Lakeland seems to call for a passing notice. The bird in question was seen on a small tarn in the neighbourhood of Haweswater, Westmoreland, on the 9th of October, 1897. The only other bird on the tarn was a Mallard. The Red-crested Pochard was shot by John Noble, a farmer, who took it to our taxidermist, Mr. Hope, of Penrith. Mr. Hope at once sent for me to confirm his identification of the bird, which I handled in the flesh; it was in good condition, and turned the scales at 2 lb. 4 ozs. It is in the plumage of youth, but is in "change," and corresponds, in fact, to the appearance which was presented, in the same month, by a male *Fuligula rufina* bred in the Gardens of the Zoological Society in 1886. It would therefore appear to be a little more than four months old.

Yours, &c.,
H. A. Macpherson.

Allonby Vicarage, Cumberland
October 16th, 1897.

Sirs,—Permit me to say, with regard to your note on the way I spell the name of the British Creeper, viz., *Certhia f. brittanica** (Ibis, 1897, p. 615), that it is not the same to spell that name and the word Britain with two t's. It is not necessary to suppose that I wish the Editors of 'The Ibis,' or any one else, to spell Britain with two t's, but I am justified in spelling the name "*brittanica*" as the author of that term originally spelt it, especially since in all, or at least nearly all old Roman manuscripts, the name of this country is spelt "Brittania" (*sic*), and the classical spelling of the name is therefore with two t's, in spite of our modern way of writing it. It is, therefore, I think, evident that Ridgway purposely spelt the name of the British Creeper with two t's and one n, and that it should be so written by us, although we all write Britain with one t.

Yours &c.,
Ernst Hartert.

Tring, November, 1897.

The Bird-Collections of the British Museum.—The Parliamentary Report of the British Museum was issued too late last year to allow us to notice it in our October number. We now transcribe the most important portions relating to the collection of Birds:—

"Considerable progress has been made during the year with the registration and incorporation of recent accessions. The whole of the Steere collection of Philippine birds has been incorporated, and much of the Seebohm collection has been registered.

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* Not "*brittannica*," as you quote my spelling!—E. H.

"The Seebohm bequest consists mainly of Palæarctic birds, including as it does the results of the many travels of its late owner in Siberia and various parts of Europe. This additional material has supplied a great want in the Museum, which was previously very deficient in specimens from the Palæarctic Region. In addition to these much-desired supplementa to the Collection of Birds, the Seebohm bequest contains a fine series of Japanese and Chinese species, the latter embracing all the Passerine birds of the Swinhoe collection. The larger specimens from the latter, such as Birds of Prey, Cormorants, Herons, Wading-birds, &c., had been given by Mr. Seebohm to the Museum during his lifetime. The series of Pheasants and Thrushes, of which Mr. Seebohm had made a special study, are among the finest in the world.

"The additions to the series of birds in 1896 were 21,900 in number, of which 16,950 were derived from the Seebohm bequest. The principal smaller acquisitions were as follows:—

"A Golden Eagle (*Aquila chrysaëtus*), from Sutherlandshire; presented by Mr. G. T. Stibbard. 22 Geese, Ducks, and Wading-birds from Holland; presented by Messrs. T. M. Pike and H. L. Popham, Esqs. 66 specimens of Eider Ducks (*Somateria mollissima*) and Black Guillemots (*Uria grylle*), illustrating the changes of plumage; from North Norway; purchased. A skeleton of the Dalmatian Pelican (*Pelecanus crispus*); presented by the Director of Kew Gardens. 8 birds from Nyasaland, including the type of a new Francolin (*Francolinus crawshayi*); presented by Mr. Richard Crawshay. 37 birds from Nyasaland; presented by Consul Alfred Sharpe. 72 specimens of birds from Nyasaland, including the types of the new species *Oriolus chlorocephalus, Cryptospiza australis,* and *Criniger olivaceiceps*; presented by Sir H. H. Johnston, K.C.B. 35 specimens from Lake Albert Edward district, Uganda; presented by Mr. G. F. Scott Elliot. 31 birds from Machakos, East

Africa, including the types of two new species (*Cisticola hindii* and *Serinus fagani*); presented by Dr. Hinde. 21 specimens of birds from Matabeleland; presented by Mr. F. C. Selous. A rare Pigeon (*Haplopelia principalis*) from West Africa, new to the collection, presented by the Committee of the Owens College, Manchester. 35 birds from Mashonaland; presented by Mr. Guy A. K. Marshall. 96 birds from Somaliland; purchased. The Steere collection of Philippine birds, being the series of skins obtained by Professor J. B. Steere during his expedition to the Philippine Archipelago: this collection, numbering 1640 specimens, containing 41 types, and examples of 15 species new to the collection, was purchased. A young Bligh's Whistling Thrush (*Myiophonus blighi*), with the nest and eggs, from Ceylon; presented by Mr. E. W. Antram. Two small collections of birds from the mountains of South-eastern New Guinea, containing examples of *Paradisornis rudolphi* and of other species new to the collection, and including the types of *Oreopsittacus grandis* and *Melipotes atriceps*; purchased. 17 birds from Persia; presented by Mr. F. Gillett. A pair of *Sitta magna*, the Great Nuthatch of Burma; presented by Major Rippon. 32 birds from the Celebean Archipelago, containing examples of 11 species new to the collection; purchased. 11 Birds of Paradise from Mount Victoria, British New Guinea; purchased. An egg of the Red-breasted Goose (*Bernicla ruficollis*) from the Yenisei River; presented by Mr. H. L. Popham. Nests and parent-birds of a Sun-bird (*Æthopyga magnifica*) and of a Flower-pecker (*Dicæum hæmatostictum*) from the Island of Negros; presented by Mr. John Whitehead. Immature specimens of *Arboricola erythrophrys* and *Hæmatortyx sanguiniceps* from Kina Balu; presented by Mr. A. H. Everett. 72 birds from Borneo and Celebes, collected by Mr. A. H. Everett, and comprising examples of 6 species new to the collection; purchased. A pair of *Alcippe davidi* from Ichang, China; presented by Mr. F. W. Styan. 49 specimens from the Marianne Islands, including examples of 9 species new to the collection; received in exchange from the Hon. Walter

Rothschild. An egg of the White-winged Trumpeter (*Psophia leucoptera*); presented by Mr. F. E. Blaauw. Two males of Anderson's Silver Pheasant (*Gennæus andersoni*) from the Ruby Mines, Burma; presented by Mr. E. W. Oates. 41 specimens from Luzon, Philippine Islands, collected by Mr. John Whitehead, and containing examples of 18 species new to the collection; purchased. A pair of the Luzon Flower-pecker (*Dicæum pygmæum*), with nest; presented by Mr. John Whitehead. A pair of Hodgson's Partridge (*Perdix hodgsoniæ*) from Thibet; presented by Mr. St. George Littledale. 45 birds from Andros Island, Bahamas; presented by Mr. Neville Chamberlain. 105 Humming-birds from Ecuador, including examples of two species new to the collection; presented by the Hon. Walter Rothschild. 18 birds from Chili, including the types of *Phrygilus coracinus*; presented by Mrs. Berkeley James. A collection of 420 birds from British Guiana; presented by Messrs. J. J. Quelch and F. V. McConnell. Four Petrels from the Kermadec Islands; presented by Professor F. W. Hutton, F.R.S. 39 Australian birds in spirit; presented by Mr. C. Burton."

The Dobroyde Collection of Australian Birds.—The Report of the Trustees of the Australian Museum, Sydney, to the Legislative Assembly of New South Wales for 1896, announces that the Government has purchased and presented to the Museum the "Dobroyde" Collection of Australian Birds and Eggs formed by Messrs. Ramsay, and containing many of the types described by Dr. E. P. Ramsay, the well-known Australian ornithologist, lately Curator of the Museum. The present Curator is Mr. R. Etheridge, Jr. Mr. Alfred J. North, who is in charge of the Birds, will, we trust, prepare a catalogue of the Dobroyde Collection, which will be very useful to ornithologists.

The Great Auk in Ireland.—The occurrence of the remains of the Great Auk (*Alca impennis*) in Ireland has been already recorded from specimens obtained by

Mr. Knowles on the coast of Antrim (Proc. R. I. Acad. (3) iii. p. 650, 1895). Mr. R. J. Ussher, as we learn from the 'Irish Naturalist' (vol. vi. p. 288, 1897), has now confirmed this discovery by finding remains of the same bird in kitchen-middens on the coast of Waterford. These specimens have been examined and determined by Dr. Gadow and Prof. Newton. Mr. Ussher believes that this new locality is further south in Europe than any hitherto recorded for the occurrence of this bird.

Reserved Localities in Jutland.—H.E. the Danish Minister has requested the Editors to insert in 'The Ibis' a copy of the following communication :—"The attention of the Danish Government has been drawn to the fact that two localities, which are the property of the Danish Crown, named 'Tipper' and 'Klœgbanken,' in the Ringkjobing Fjord, on the west coast of Jutland, have of late years been visited by a large number of sportsmen and collectors, both native and foreign, during the close-time, for the purpose of securing specimens and eggs of the numerous Waterfowl which nest there, particularly of the rarer species. Great injury having been thus done to these interesting centres of bird-life, the Danish Government desires to bring it to the knowledge of all concerned, that such acts are illegal, that the provisions of the law of Denmark relating thereto will, in future, be strictly enforced by special measures, and that persons unlawfully visiting these localities for sporting or collecting purposes must expect to be arrested and dealt with according to law.

"November, 1897."

Rearrangement of the Bird-gallery in the British Museum.—The rearrangement of the Bird-gallery in the British Museum, under the superintendence of the Director, has been commenced and is making good progress. The Passeres and other highly-developed groups will be placed on the left-hand side of the entrance from the hall, and the Ratitæ and lower groups on the right hand, so that, when the whole series is finished, the student will be able to commence his examination from the top or from the bottom of the system, as he pleases. The Ostriches, Kiwis, Tinamous, Penguins, and most of the Gallinæ are already in their places. The specimens have been specially selected for the purpose and carefully remounted. Skeletons, young birds, eggs, nests, and other subsidiary objects, where required, are freely introduced. There can be no question that when the whole series is finished it will afford a most instructive and interesting exhibition of the various groups of the Class of Birds.

Penguins in the Macquarie Islands.—The 'Pall Mall Magazine' for November last (vol. xiii. p. 363) contains a well-written popular article on the Penguins of the Macquarie Islands by Mr. W. H. Bickerton, entitled "The Home of the Penguins." It is beautifully illustrated "from special photographs." The full-page plate of the "King Penguin hatching its Egg" is capital. The author visited the island in March 1895, and found two species of Penguins breeding there, which he calls the Royal Penguin (*Eudyptes schlegeli*) and the King Penguin (*Aptenodytes longirostris*), the former being by far the more numerous. Full details are given about the breeding-habits of both of them.

The Birds of the Sandwich Islands.—We recorded the return of Mr. R. L. Perkins from the Sandwich Islands last year (see Ibis, 1897, p. 491). His last collection of birds has now been arranged and divided by the Sandwich Island Committee, the first set of 81 specimens having been deposited in the British Museum. Among them are examples of *Drepanis funerea*, *Loxops aurea*, and *Viridonia sagittirostris*, the last two being new to the collection. We may now venture to hope that the completion of Messrs. Wilson and Evans's 'Aves Hawaiienses' and of Mr. Rothschild's 'Avifauna of Laysan' will not be much longer deferred.

New Ornithologist at Leyden.—We have the pleasure of announcing that Dr. Otto Finsch, of Delmenhorst, Bremen, C.M.Z.S., has been appointed to succeed Dr. Büttikofer in the charge of the Department of Birds in the Leyden Museum.

XV.—*Obituary.*

Mr. F. C. Aplin *and* Sir John W. P. Campbell-Orde, Bart.

Frederick Charles Aplin, a Member of the B.O.U. (elected in 1887), died on the 31st August, 1897, at his residence, Bodicote, Oxfordshire, at the age of 43. Born at Bodicote on the 14th March, 1854, he was educated for the most part privately, until he entered St. John's College, Oxford, where he graduated B.A. He proceeded to the degree of B.C.L., and was called to the Bar at Lincoln's Inn, but afterwards relinquished the Bar in order to practise as a solicitor. Aplin had an excellent knowledge of our native birds, and paid several visits to the east coast of England in pursuit of the autumn migrants and of wildfowl. In 1882, in conjunction with his two brothers, he published 'A List of the Birds of the Banbury District,' which was noticed in 'The Ibis' (1883, p. 375), and he was at one time in the habit of communicating occasional notes to 'The Zoologist,' the more important of which had reference to the plumage of the Kestrel, a subject in which he took great interest. Indeed, the Birds of Prey were always his favourites. Some birds of this order he kept in confinement from time to time, and his knowledge of the Accipitres as a whole was extensive. His copy of the first volume of the British Museum Catalogue, carefully annotated with references to 'The Ibis' and other works, bears testimony to the attention he paid to the Diurnal Birds of Prey, and he was a diligent student of all that the late Mr. J. H. Gurney wrote on the subject. Indeed, he always regretted the want of opportunities for carrying out, in a practical manner, his study of the Accipitres, upon which he would otherwise have doubtless become an authority. As a field-ornithologist his observations were characterized by scrupulous accuracy.

Sir John William Powlett Campbell-Orde, of North Uist and Kilmory, Bart.—We have to regret the loss of another of the rapidly-diminishing number of the twenty founders and original Members of our Union, of whom eight only now remain on the list. Sir John Campbell-Orde joined the 42nd Royal Highlanders from Eton in 1846. The regiment, consisting then of two battalions, was stationed in Bermuda. There was at that time in the regiment a little band of zealous naturalists, and every branch of natural history had its votaries. Our first President, the late Colonel H. M. Drummond-Hay, and the late Lt.-Col. Wedderburn, were the chief ornithologists, and young Orde, already a keen sportsman, was soon inspired by them with an ardent love for bird-life. He was a careful observer of the habits of birds, and collected diligently, wherever his regiment happened to be stationed, at home and abroad. Orde retired from the army on his marriage, after ten years' service. On succeeding to his father's title and estates in Argyllshire and Uist, he quickly made himself thoroughly well acquainted with public matters, and filled many offices connected with county business. He was Deputy Lieutenant and Justice of the Peace for Argyllshire. Not forgetting ornithology, Sir John paid special attention in the protection of the rarer species of birds in North Uist, and continued up to the time of his death to add to his collection. The gem of this he considered to be a fine male example of *Fuligula rufina*, obtained in Argyllshire, which is believed to be the only recorded Scottish specimen. While spending a few days at Kilmory last year, the writer of this notice was much interested in looking over Sir John's notes, especially those on the birds he had observed in Nova Scotia. Sir John was born in 1827, and died at his residence, Kilmory House, on the 13th of October last.

THE IBIS.

SEVENTH SERIES.

No. XIV. APRIL 1898.

XVI.—*Notes on the Birds observed on Waigats, Novaya Zemlya, and Dolgoi Island, in* 1897. By Henry J. Pearson.

The north-east corner of European Russia, lying between the River Petchora and the Yugor Straits, called the Great Tundra, is a country of which so little is known ornithologically that I determined to visit it last summer. The parts specially intended for exploration were the valleys drained by the Karataikha and Khapidira Rivers, which flow into Khapidirsh Bay. The charts represent the whole of this bay and adjoining shores as being bordered by large mud-flats, which are bare at low tide; and, according to the few available descriptions of the country near the coast, it consists of extensive marshes thickly studded with lakes and tarns, interspersed with tracts of rolling tundra—in fact a perfect paradise for Waders, Ducks, and Geese. Again, the range of hills running from west to east within ten miles of the head of the bay, and reaching an altitude of 400 or 500 feet, ought to vary the character of the breeding-ground, and, together with the lowlands, provide suitable nesting-spots for many of the arctic species.

The chief line of spring migration to this district is probably up the valley of the Volga; but smaller streams of birds doubtless come from the West of Europe, and a few stragglers may reach it from the east of the Ural Mountains; so that I hoped to meet with a large variety of species, even to find a pair of Curlew-Sandpipers there !—although I ought to say that this hope was discouraged by all my ornithological friends.

I believe the only Englishmen who have crossed this country are Mr. G. H. Popham, Captain Wiggins, and Mr. F. G. Jackson (of the Jackson-Harmsworth Expedition). They passed over it while the ground was under snow; but it had been visited in summer by Alexander Gustav Schrenk in 1837, as well as by Herr Keyserling, who published an account of his journey in ‘Reise in das Petschora-Land’ (St. Petersburg), 1846. Both of them examined the botany of the district very carefully, but gave few details respecting ornithology.

Sledging appeared impossible in summer-time, considering the large amount of food and collecting-outfit which would be necessary, so the sea-route was chosen. Both English and Russian charts gave very scanty information; but, from the few soundings marked on them, it seemed that a ship of light draught could approach the land sufficiently to enable us to reach the rivers in a steam-launch. I therefore chartered the ss. ‘Laura’ from Herr Giæver, of Tromsö, and Colonel H. W. Feilden and Mr. Frederick Curtis accompanied me. The ship proved very suitable for our purpose in most respects, her chief fault being a slight deficiency in steam-power; but it is difficult to combine this with good sailing qualities in a wooden vessel, and for cruising in these seas high speed is not essential.

After many delays we finally left the North Cape, Norway, on June 20th, ten days later than we had intended; and, owing to constant head-winds, Kolguev was sighted only on the 25th; in fact, during the first two months of our voyage we were able to sail without steam for three hours! We expected to meet the ice at Kolguev, but none being seen as we advanced to the east of the island, and the temperature continuing high—June 27th, 8 A.M., thermometer in shade 50°, surface water of sea 50° Fahr.—we began to hope we should reach our goal at once without obstruction: hopes, alas! destined to be soon destroyed, for the ice appeared four hours later, the ship being then north of the Petchora. We coasted down the edge of the ice to the west, but found the whole coast closely packed for some distance beyond the mouth of that river, and extending seaward as far as the ten-fathom line, a distance of twenty to thirty miles. As there is no safe anchorage on this coast, we dared not attempt to push through the pack to shore, and were therefore obliged to return along the edge of the ice to the north-east. Fog caused considerable delay, but early on the 29th it lifted a little and enabled us to see some islands ahead. These proved to be off the north-west corner of Waigats in the Kara Straits, and we decided to get through the ice into Dolga Bay if possible. After some trouble we succeeded in doing this, and found a very good anchorage near a small island on the east side—the only place where a ship is fairly safe from ice in the whole bay. Our steam-launch, which was too large to take on board and so had to be towed after us, was exposed to many vicissitudes, for she was often dragged over the ice, and would have sunk if she had not been well covered with painted canvas.

As we now knew that owing to the state of the ice we could not reach our original goal for some time, we decided to spend the interval in working Waigats, and eighteen days were passed at Dolga Bay, Cape Greben, and Cape Matinsela, very pleasantly. During this time we saw or shot examples of thirty-three species of birds; among these the Wheatear, Rough-legged Buzzard, Ruff, Temminck's Stint, and Goosander were recorded from there for the first time. We also obtained eggs of thirteen species. We next visited the country round Habarova on the mainland, where a Merlin was seen and a White Wagtail shot.

At last, on July 19th, both wind and ice appeared favourable for an attempt to reach Khapidirsh Bay, so we left Habarova at noon and steamed down the coast; at first keeping it some six miles off, but the shoal-water obliged us to increase our distance off shore. As we advanced the depth decreased to eight and six fathoms, the soundings indicating a surface like the rolling tundra on the adjacent shore, and the lead bringing up the same dark greenish mud which forms the bulk of the surface on land. At 11.30 P.M. the depth was five fathoms, and directly after $4\frac{1}{2}$! At this time we were ten miles distant from Bylkoviky Noss, fifteen from Selenetz Island, forty from Khapidira River, and twenty from the Karataikha River. The chart showed six fathoms at a point twenty miles nearer the Khapidira River than that we had reached. It was quite plain the ship could be taken no further; neither could she remain where she was, if any sign of change of wind appeared, for there was no anchorage nearer than Cape Greben, forty miles off.

The Russians at Habarova could give us no certain information about the depth of the sea, or that the launch, drawing three feet, could enter the Karataikha River—although they thought it possible; so it appeared more than rash to attempt a voyage in the launch, occupying eight hours under favourable circumstances, and with considerable probability of finding the ship gone on our return. The water generally proved to be much shallower than marked on the charts; but as the Russians report this to be one of the most favourable ice-years within the memory of man, information as to its depth can seldom be of any service! We were unable also to travel overland from Habarova, as all the reindeer had been sent some distance into the country to the hills to avoid the mosquitoes and flies; and we were therefore obliged, most reluctantly, to abandon the chief object of our expedition.

The next day we succeeded in landing on the island of Dolgoi, a place very rarely visited by civilized men, and only inhabited by two Samoyeds during part of the year. Unfortunately it was only possible to remain on shore seven hours, as the wind then obliged us to leave and seek deeper water off Waigats; but, as we landed near the centre of the island, and it all appeared of a similar character, we think the twenty species of birds seen or shot fairly exhaust the list to be obtained there. The island runs from north-west to south-east, and is formed by a long narrow reef of rock which looks like old limestone, and is tilted to an angle of 45° or 50° from north-east (lowest) to south-west. Except in one or two places the rock was all covered with rolling tundra of a more mossy nature than that on Waigats, and thickly studded with lakes of all sizes, from some 700 yards across to little tarns. It formed, therefore, a perfect breeding-place for Divers, and both the Black- and Red-throated species were more plentiful than we have ever seen them before. A list of the various birds observed is given on p. 208. We were fortunate in getting away at the time we did, for it would have been impossible to leave the shore half an hour later, and an hour after our departure the sea was seen to be breaking two fathoms deep a mile from the shore. The changes of weather in these latitudes are very rapid, and fully justified the anxiety our good Captain Kjeldsen so often expressed for what he described as a "good anchoration."

Having thus been obliged to give up our original plans, and the season being so far advanced, we decided to proceed to Novaya Zemlya, and arrived at Belootchia Bay on the south-west coast, July 22nd, a place visited by us in 1895. During a trip up the river "Saxon," which runs into the head of the bay, we came across several parties of young and moulting Geese, out of which we shot thirty-six, a slaughter not so unnecessary as it may appear, for all of us had been living on tinned meats for a month, and absolutely required fresh food. Young White-fronted or Bean Geese roasted, and larded with a little bacon, not only afford a pleasant change in the north, but would be welcomed at table at home.

From Belootchia Bay we steamed up the west coast to Matotschin Scharr, and anchored in Cairn Bay at the west entrance to the Straits. On shore here I saw a Stint, but the light was too bad to determine whether a Temminck's or Little Stint, and a Samoyed dog, which persisted in giving me the pleasure of its company, prevented my getting a shot. A colony of Samoyeds have been settled here three years, and have several wooden houses—one of these being most comfortable, well built, and lined inside with planed boards. Last year they had sold to the Russians 115 deer and 39 ice-bear skins.

All the best points on Novaya Zemlya for shooting bears and reindeer are occupied by these people; and last year one or two parties had gone north to winter on the west coast of the North Island or Lutkë Land, so that it is scarcely necessary to explain how very slight the chances of sport in this country now are. The men told us the ice left the coast last year in May, and they believed the Scharr was then open also.

From Cairn Bay we proceeded through the Scharr to its east entrance, where we anchored in Seal Bay, a very safe place, and the best anchorage found during our voyage; it is formed by a small inlet on the east side of Belushja Bay. We spent nine days in working the surrounding country on both sides of the Straits, and found birds to be much scarcer here than on the west coast.

As we could see no ice on the Kara Sea from the hills ascended, we steamed up the east coast of Lutkë Land on the 6th of August, and reached Pachtussoff Island, lat. 74° 24′. Here the sea was absolutely clear of sea-ice as far as could be seen from an elevation of 130 feet, and no ice-blink was visible; in fact it was the most wonderful year for open water on this east coast I can find recorded since the sixteenth century. Unfortunately the constant headwinds had nearly exhausted our coal, so that we were unable to avail ourselves of such a favourable opportunity to explore the coast further north, respecting which very little is known.

Returning down the coast we spent a day in Bear Bay, and then steamed through the Scharr to Nameless Bay. This bay and its wonderful wealth of bird-life have been fully described by Admiral Markham in his "Voyage of the 'Isbjörn'" (see 'A Polar Reconnaissance,' pp. 150–153). Still no description can do full justice to the scene, which must be visited to be realized. The Brünnich's Guillemots were very tame, and sat for their portraits at a distance of five feet! With such a larder close to them the Glaucous Gulls throve and were very numerous. Most of the young could fly—August 11th—but three were secured as companions to one brought back in 1895, and have not only thriven well since their arrival, but also take the lead over the older birds, both Glaucous and Greater Black-backs.

We started for Vardö on the 12th August, and, as the wind at last was more favourable, we reached that port on the 16th and Tromsö on the 20th, where the 'Laura' was left. On reaching Tromsö there was not enough coal left to last three days, showing that further exploration would have been impossible.

Our voyage of eleven weeks was to some extent a failure, but a pleasant one, and so far of use that it has shown clearly the impracticability of reaching the north-east Russian coast from the sea. It is to be hoped that some English ornithologist will shortly make the attempt from the land-side, as I feel sure there is much good work to be done and satisfactory results obtained in that district.

1. SAXICOLA ŒNANTHE.

The Wheatear was one of the five species we added to the list of birds for Waigats. It was first recorded near Dolga Bay, July 8th, when two were seen and a female shot. While we were preparing to photograph four young Buzzards in their nest there, a Wheatear hovered over them for some seconds, apparently much interested. Several birds were also seen at Cape Matinsela on the east coast on July 18th; the one shot for identification was another female.

2. MOTACILLA ALBA.

A male of the White Wagtail was shot at Habarova, July 17th, and another seen there the same afternoon. Messrs. Harvie-Brown and Seebohm did not meet with this bird north of lat. 68°, and, Habarova being in 69° 40′, the above forms a considerable extension of the range of the bird in Europe. The place was thoroughly adapted for its summer residence, for neither Russians nor Samoyeds (nor their dogs) are very scrupulous in sanitary matters, and consequently flies of many kinds were numerous. We did *not* take in water at Habarova, and advise future visitors to these regions to select sources of supply at some distance from human habitations.

3. ANTHUS CERVINUS.

Waigats is a thoroughly suitable country for the Red-throated Pipit, and the birds were fairly numerous in all the parts visited. Nine clutches of eggs were taken between July 3rd and 11th, most of them much incubated. Two of these clutches, found on the 8th a mile apart, raised the old question as to whether the bird knows the colour of her eggs and selects a suitable locality, or colours her eggs to suit the locality. The first clutch was in a marsh and placed high up among the grass, so that both the nest and eggs were very open to observation, in my experience a most unusual position for this bird to select. The eggs harmonized perfectly with the dead grass which surrounded them, and are the lightest-coloured clutch I have. The next clutch (four) was in a vertical hole six inches deep and only just large enough to admit the bird; it is the deepest-coloured set taken during two seasons. The nest of this species is usually placed in the side of a hummock in swampy ground and well concealed, so that both nests were a departure from the ordinary habits of the bird. These Pipits were numerous on Dolgoi Island; both old and young were shot there.

4. LINOTA LINARIA.

We found a nest of the Mealy Redpoll with three eggs (fresh) near Habarova on July 14th and shot the male. The nest was a beautiful little structure placed in a dwarf sallow. Several Linnets were seen in Waigats, but we could never obtain a specimen. Mr. Jackson also mentions having shot three there ('The Great Frozen Land,' p. 34), describing them only as Linnets. There is little doubt, therefore, that this species crosses the Yugor Straits to Waigats, and may be added to the list of birds found there.

5. CALCARIUS LAPPONICUS.

Lapland Buntings were somewhat local and nowhere numerous on Waigats, no doubt owing to the unsuitableness of the country. They were most plentiful on the west side of Dolga Bay, where the tundra resembled that of Kolguev. A few were seen near Cape Greben in the south of the island, and a young one, fully fledged, shot on July 15th. We saw twenty or thirty on Dolgoi Island during our short stay. None were observed in any part of Novaya Zemlya this year, but it is possible they had left before our arrival; we met with them there in 1895.

6. PLECTROPHENAX NIVALIS.

The Snow-Bunting was certainly the commonest land-bird wherever we went. Several nests were in such unusual positions that they may be worth recording. On July 2nd we found a deserted nest, containing five eggs, placed on a flat stone in the dry bed of a stream; on the same stone were the remains of an older nest. Ten yards higher up were two more old nests touching each other, and evidently made in successive years. The streams of Waigats become large torrents when the snow melts in spring, but shrink to little rivulets in summer, with broad dry beds of shingle and mud. All these nests were in the centre of the shingle and totally unprotected. There were plenty of crevices among the rocks in the vicinity which the birds might have occupied. On July 3rd we found another nest by a stream, placed on the top of a detached pinnacle of mud which projected from the bank. It contained two young birds ready to fly and an addled egg. Within fifty yards were great screes affording unlimited and well-secreted nesting-places; therefore all these positions were matters of choice, not necessity. On our first landing on Waigats (June 29th) some young birds were on the wing, so that few nests with eggs were taken. The number of mosquitoes these birds destroy must be very great; we saw them all day long with great bunches of these insects in their beaks. Fortunately for us, the weather was generally cool enough to keep the mosquitoes in the shelter of the grass, and the Snow-Buntings ran through it in all directions like mice, far too busy collecting the little wretches to trouble about our watching them.

7. Otocorys alpestris. Shore Lark.

This species was plentiful wherever we landed on Waigats and also on Dolgoi Island. It is an early breeder, as many young were flying on our arrival. Four nests were taken (with five, five, three, and four eggs respectively) between June 30th and July 11th. Last season's observations confirm the idea that occasionally this bird breeds twice. The positions of the nests were similar to those we found on Kolguev and of the same materials (Ibis, 1896, p. 215).

8. Nyctea scandiaca. Snowy Owl.

Unfortunately these birds are large enough to form an article of food, and therefore suffer from the increase of the Samoyed population; we found their wings, &c., on the sites of old camps on several occasions. Having tried before without success to obtain the eggs, we were determined last year to get them if possible, and never left a likely spot unvisited; but all to no purpose, no nest being found which showed signs of having been used last season. The cause of this was no doubt the fact it was a bad year for lemmings throughout the whole of the countries visited; we only saw two lemmings in two months. In the Gubina Valley, on the south side of Matotschin Scharr, were eight old nests of the Snowy Owl of various ages, all placed on the tops of mounds, the sides of which were full of lemming-holes—in fact, homes comfortably placed over a living larder! The interior of the later nests had no lining except a quantity of jaw-bones and other remains of the lemming. A dead bird of this species was picked up on Dolgoi Island.

9. Archibuteo lagopus.

The Rough-legged Buzzard was another of the birds added to the list for Waigats. We first found a pair on June 29th breeding in a range of hills near Dolga Bay. The nest was placed about twenty feet from the top of the cliff and was made entirely of grass; it contained three young in down and a headless young Snow-Bunting. We secured the male Buzzard and young. Another nest was found on a cliff of the coast near our anchorage in Dolga Bay, containing two eggs which had been deserted last year. The third nest was also near Dolga Bay, and was picturesquely placed on a detached pinnacle of rock projecting from the side of a hill. It contained four young in down, two of which were taken on board alive, and at once became the pets of the crew. Their rapid growth was very interesting to watch. As soon as they were feathered they chose the roof of the engine-house for their favourite perch, from which they had a good view of the various countries they visited. Both birds are now in the Zoological Society's Gardens, Regent's Park.

10. HALIAËTUS ALBICILLA.

A White-tailed Eagle was seen, but not shot, near Dolga Bay, Waigats. Incidentally I may remark that this bird is still far from extinct in Norway. While stopping at Skaarö—an island near Tromsö, where Herr Giæver has a whaling establishment—to take in coals for our voyage, we were told by the butcher that he counted thirty of these birds sitting on one of the sheds at 5.30 one morning in the spring of last year. The large amount of food here attracts great numbers of birds, and I have counted seventy Ravens on the hillside near. The place is left in the winter with only an old man in charge, during which time the birds are unmolested; but the butcher, who returns each spring, has a rifle and can use it. From what I saw one day when waiting to get photographs of the Gulls, &c., I feel sure he was personally known to them, for while they took little notice of me and most of the men about the works, they left for another island directly he appeared, although he had no gun at the time.

11. FALCO PEREGRINUS.

Coming on deck two hours after our arrival in Dolga Bay on June 29th, we were told by Captain Kjeldsen he had found a "Hawk's" nest on the island close to our anchorage. We landed at once to investigate, and found the nest to be that of a Peregrine. It was placed on a projecting ledge of the cliff-face some forty feet above the sea, and was constructed chiefly of sticks, which must have cost the birds some trouble to collect, as nothing grows on this island capable of producing a stick except a dwarf species of willow, and that only at rare intervals. We took the three well-coloured eggs after photographing them *in situ,* and shot the male bird. It was well we secured the eggs then, for on visiting the spot again two days later the whole piece of cliff on which the nest was placed had fallen into the sea.

The next time we met with this species was on July 18th at Cape Matinsela, on the east coast of the island. The nest was on the spur of the sandhills running out towards the shore; it consisted of a little grass only, and contained three young in down. The female was shot. On August 10th we were fortunate in finding this bird breeding on the cliffs of Silver Bay, Lutkë Land, the first record of it on the North Island. There were the two old birds and four young; two of the latter flew on our approach, and the others remained sitting on a ledge of the slate rock composing the cliff. The nest was placed in a recess of the cliff, some 100 feet high at that part. Théel has struck this bird out of his list for all three islands, but this is evidently incorrect. While lying-to in a fog off Nameless Bay on the west coast of Novaya Zemlya, I had written that, as we found the bird both on Lutkë Land and Waigats, it would probably be recorded from Novaya Zemlya; and three hours after we were able to complete the record of this bird for all three islands, by finding a pair with young. They had bred in a ravine cut through the slate rock 200 feet deep, and at the bottom of which a river ran into the south side of Nameless Bay. On further reference I find Pelzeln records this bird from the South Island.

12. FALCO ÆSALON.

A Merlin was seen near Habarova on July 17th, but unfortunately we were unable to secure it. The remarks on the extension of range of the White Wagtail apply to this species also, for it has previously been recorded only by Messrs. Harvie-Brown and Seebohm in lat. 68°.

13. ANSER SEGETUM. Bean-Goose.

Although none of these birds were shot on Waigats, we saw one flock well through our glasses, and identified them as Bean-Geese. As mentioned above, we shot nine of this species in Belootchia Bay; the longest measured 31 inches from tip of beak to end of tail, and the shortest 27. We also shot eight Bean-Geese on Lutkë Land, near Belushja Bay; and from our observations generally, we think the majority of the Geese visiting these islands are of this and the following species. A flock of seventy to a hundred "Grey" Geese were seen at Bear Bay; in fact, they were numerous in most places where the Samoyeds had not yet settled. It was strange we never saw Brent Geese either in 1895 or 1897, as they have been recorded by almost all previous visitors.

14. ANSER ALBIFRONS.

Twenty-seven White-fronted Geese were shot in Belootchia Bay on July 23rd. The longest was 28 inches, and the shortest 25 inches. In all cases the species were in separate flocks. Five of these birds were seen on July 28th in Belushja Bay, which appears to be a favourite breeding-place for Geese, and to be rarely disturbed by the Samoyeds, as yet, at that season; but I have no doubt they will shortly establish hunting-stations up the east coast. We found long strings of the upper mandibles of both the above species in their houses, made into playthings for their children.

15. CYGNUS BEWICKI.

Eight Bewick's Swans passed within a hundred yards at Dolga Bay, July 3rd. None were seen this year on Novaya Zemlya.

16. HARELDA GLACIALIS.

Long-tailed Ducks were very numerous on Waigats and Novaya Zemlya. On Dolgoi Island we secured a female and young in down; and a few birds were shot on Lutkë Land.

17. SOMATERIA MOLLISSIMA.

The Common Eider was the only one we found breeding on Waigats and Novaya Zemlya. Though not protected, as it is in Norway, it is still fairly plentiful on these islands.

18. SOMATERIA SPECTABILIS.

We again failed to secure authentic eggs of the King-Eider; a young bird in down and its mother were, however, shot on Dolgoi Island on July 20th.

Ivan Alexandrovitch Koshevin, the principal Russian merchant in Habarova, told us that the King-Eider bred on Dolgoi, and the Common Eider on Waigats. The information he gave us about all the larger birds was very correct; and he pointed out at once, on the drawings shown him, the difference between the various Swans and Geese. We shot three females in Belushja Bay, July 28th, and saw a flock of between 500 and 600 Eiders on Ziwolka Bay behind Pachtussoff Island, lat. 74° 24′, on Aug. 6th, which we thought belonged to this species. They flew over us several times, but not within range.

19. MERGUS MERGANSER.

We shot two Goosanders at Cape Matinsela, Waigats, on July 18th, and were thus able to add this bird to the list for the island. We were specially glad to secure them, as we had recorded this species on Novaya Zemlya in 1895 from observation only, and the capture on Waigats confirms this opinion to some extent. It has not been previously found in any of the three islands.

20. MERGUS SERRATOR.

Several Red-breasted Mergansers were seen on Waigats, also near Habarova; we only succeeded in bringing them to bag near Belushja Bay.

21. CHARADRIUS PLUVIALIS.

Five Golden Plovers were seen near Dolga Bay, Waigats, on July 2nd, and several more near Cape Greben, July 11th; none were shot.

22. SQUATAROLA HELVETICA.

Soon after landing on Dolgoi Island we saw some Grey Plovers in the distance, and there they (or rather we) remained, in spite of all our efforts to come to closer quarters. We watched several pairs for two hours, and came to the conclusion that all the young could fly. Two hatched-out egg-shells were picked up. As this was on July 20th, and eggs were taken up to July 13th, in 1895, on Kolguev, the early season had evidently affected these birds. The young seen on the wing were quite as wild as their parents.

23. ÆGIALITIS HIATICULA.

Ringed Plovers were plentiful on Waigats, Habarova, Dolgoi, Novaya Zemlya, and the most northern point reached of Lutkë Land, in places that afforded suitable breeding-ground; but we were generally too late for eggs, and the only ones taken were at Dolga Bay, on the 2nd and 8th of July.

24. EUDROMIAS MORINELLUS.

Dotterel were common on both the north and south ends of Waigats; many of the birds did not appear to be breeding, and only four clutches (all of three eggs each) were taken—the first being found on June 29th and the last on July 18th. Several families of young in down were also secured. One female was shot from the nest, but three adults shot with the young were males. Some of these handsome birds were obtained on Dolgoi Island, and a few seen at Habarova. None were observed last year on Novaya Zemlya, although we passed over the same country where their eggs had been taken in 1895.

25. STREPSILAS INTERPRES.

The Turnstone was one of those birds we were surprised not to find on Waigats, as the country appeared so suitable for it; and we had already recorded it from Novaya Zemlya in 1895. Several pairs were seen on Dolgoi Island, and both old and young shot there. One was also shot near Habarova, July 16th.

26. PHALAROPUS HYPERBOREUS.

Red-necked Phalaropes were common on all the marshes of Waigats. Three clutches of eggs—four, three, and four respectively—were found between June 30th and July 5th; all in wet positions, and in one case I stood in nine inches of water to photograph the eggs, the nest being in coarse grass over the water. Several young in down were also secured. The only bird shot from the nest proved to be a male. The species was common on Dolgoi Island.

27. TRINGA ALPINA.

Dunlins were sparsely but evenly distributed over all the parts of Waigats we visited, and generally had young; a clutch of four eggs, half incubated, was taken on July 8th.

A bird of the year was shot at Habarova, July 17th; and several pairs of old birds were seen on Dolgoi Island during our short visit there.

This species is not at all gregarious during the breeding-season; even in Iceland, to which thousands resort every summer, we rarely found more than one pair in a marsh.

28. TRINGA MINUTA.

It would be far easier to write a paper than a paragraph on the Little Stint, so charming is this bird in all its ways, and so entirely without fear of man. Little Stints were the commonest species on Waigats after the Snow-Bunting, and especially numerous at the heads of Dolga Bay and other inlets of the sea; but they did not confine themselves to the neighbourhood of the shore, a number breeding round the lakes, two to three miles inland. They were also nesting near Habarova, on Dolgoi Island, and at Belootchia Bay, Novaya Zemlya. At the last place, on our showing some young ones to Taitiana, our Samoyed hostess of 1895, she explained that the Samoyed dogs eat most of the young of this and other species before they can fly. There are generally forty to sixty dogs at a camp; and as the poor brutes are often half starved, they range over the country for miles, clearing off everything, from Little Stints upwards.

So that practically the sufferers from our egg-collecting were the dogs and not the Stints!

We found large numbers of nests at many of the places visited, and took 183 eggs, all of which were fertile: a fact worth recording. A series of photographs of the nests were taken, the camera being placed vertically over them. In two instances the bird came back and sat on her eggs to be photographed; it appeared to wonder what the large black cloth and other paraphernalia (including the operator) were for, but showed no signs of real fear.

As in the case of *Anthus cervinus*, the question of assimilated coloration was very interesting. Nine nests were found one day in an hour, five on a shingle-bar, composed chiefly of water-worn fragments of slate and covered in places with a little dried yellow-grey grass; and four—not a hundred yards distant—were among richly-tinted green and brown moss, sparsely covered with bright green grass. The five placed among the dead grass were all of a grey tone of colour with small spots; while the four in the moss were among the most richly coloured and blotched clutches we took last year. It is now generally accepted that females among the higher types of domestic animals are largely influenced by the animals they see when pregnant; but the orthodox view is that birds know the future colour of their eggs, and select a nesting-site to correspond. These and other instances lead me to the belief that the bird is in some cases influenced by her surroundings.

29. TRINGA TEMMINCKI.

Temminck's Stint was the fourth species added to the Waigats list. We first met with it on July 6th at the north end of the island, where the adult male was shot and four young in down were secured. We also found both parents and four young in the south of Waigats, and were packing the latter away in the knapsack when three juvenile Stints, more advanced, were secured near by. As the latter showed great anxiety to depart, the museum labels were attached to their legs first; in spite of which one wandered off seven or eight feet, when the old Stint at once came and covered it, but with many an anxious look both at the projecting label and at us. The occurrence was the more extraordinary because this species is usually much wilder than the Little Stint, even when it has young. At Habarova we again found an old bird with four young; but the species is rare in these countries, as only six or eight were seen during the whole journey.

30. Tringa striata.

The Purple Sandpiper was observed at all the places visited except Dolgoi Island; and no doubt with a more extended search we should have met with it there also. Young in down were obtained on Waigats, July 6th, 11th, and 15th, and a nest of four eggs at Cape Greben on July 11th. The latter was on a knoll of black peat partly covered with white lichen, and was lined with dead leaves of a dwarf willow.

31. Machetes pugnax.

We shot a Reeve the first day we landed on Waigats, and afterwards saw a number of both Ruffs and Reeves; but we found only two nests: the first, on June 30th, containing only one egg, and the second, on July 4th, three. A young bird in down was obtained at Habarova, July 14th. Some Reeves were also shot on Dolgoi Island, July 20th. The above is the first record of this bird in Waigats.

32. Sterna macrura.

The only occasion on which we met with the Arctic Tern on land last year was at Pachtussoff Island, on the east coast of Lutkë Land, where a small colony had young, just able to fly, August 6th. They had nested on a bar of shingle under the shelter of the island.

33. Pagophila eburnea.

The Ivory Gull also was met with only on the east coast of Lutkë Land. It was plentiful in Bear Bay, August 8th; and more than forty quickly collected on an ice-floe where our men had killed a seal. Two of those shot had large incubation-spots, so it is probable they had bred this year in the neighbourhood. Both birds were males.

34. Rissa tridactyla.

The Kittiwake was common on all the bird-rocks of Novaya Zemlya. We found no breeding-places of this species nor of Brünnich's Guillemot on Waigats.

35. Larus glaucus.

A few scattered pairs of Glaucous Gulls breed on Waigats, and we secured a whole family of father, mother, and three young on an island in Dolga Bay for the British Museum. We also found the species at Habarova, on Dolgoi Island, and on Lutkë Land, but the total number seen at all these places did not equal those at Nameless Bay. Admiral Markham noticed that the Glaucous Gull did not hatch all three eggs; but this may have been the result of an unfavourable season, for we met with three cases in which there could be no doubt the brood consisted of three young.

36. Larus affinis.

Black-mantled Gulls were observed on Waigats, Dolgoi, Novaya Zemlya, and at Habarova, but none were shot last year. The bird shot on Kolguev in 1895 was the Siberian River-Gull; and I quite agree with Dresser's views ('Birds of Europe,' vol. viii. p. 418) respecting Heuglin's list. Until more definite proof is forthcoming of the presence of *L. marinus* and *L. fuscus* in these waters it will be safer to exclude them from the list.

37. Stercorarius pomatorhinus.

We saw Pomatorhine Skuas on Waigats, Novaya Zemlya, and Lutkë Land, but no indication that they were breeding.

38. Stercorarius crepidatus.

Two Richardson's Skuas were shot on Dolgoi and one at Habarova; all were of the white-breasted variety, two being females and one male. The male was shot on Dolgoi while endeavouring to protect its young in down, and had mated with a black female; the latter kept out of range.

39. Stercorarius parasiticus.

Buffon's Skuas were seen on Waigats and Habarova, but no nests obtained. Skuas of all three kinds were again very numerous over Barents Sea last year, and were constantly about the ship until we sighted the Norwegian coast.

40. FULMARUS GLACIALIS.

Fulmars were only seen at sea off the coasts of Novaya Zemlya and Lutkë Land.

41. COLYMBUS ADAMSI.

The only Yellow-billed Diver we saw last year with certainty was in Nameless Bay, and there can be no reasonable doubt about the bird observed in 1895. Previous writers have referred the birds seen to *C. glacialis*, so that further information will be interesting.

42. COLYMBUS ARCTICUS.

Black-throated Divers were observed on both the north and south of Waigats, and one nest of two eggs was obtained June 30th. The bird was common on Dolgoi.

43. COLYMBUS SEPTENTRIONALIS.

A Red-throated Diver and two young in down were shot on Waigats, July 15th; also at Belushja Bay, July 28th. In both instances it was the male bird that stayed to take care of the young, the female keeping at a safe distance. Two pairs of these birds were seen on Pachtussoff Island, August 6th, but no sign of nest or young.

44. LOMVIA BRUENNICHI.

We found the Brünnich Guillemot breeding only on the west coast of Novaya Zemlya, doubtless owing to the fact that the sea on the east side is so rarely free from ice.

45. URIA MANDTI.

Mandt's Black Guillemots were shot in Dolga Bay and on Pachtussoff Island. A bird of the year was seen in Nameless Bay, August 12th.

In treating of the birds of Waigats, Novaya Zemlya, and Lutkë Land, previous writers have always combined them in one list, with only occasional notes as to the island on which certain species were obtained; so that it is very difficult in most cases to determine the exact locality, and I trust, therefore, that any errors in the following lists may be forgiven. I have always inserted the bird in the division most probable from the context, rather than omit the record entirely.

The three islands are 660 miles in total length, extending from lat. 69°40′ to lat. 77°, and vary greatly in their climatic conditions; their avifauna should therefore, I think, be treated separately.

Referring to Th. von Heuglin's article in 'The Ibis,' 1872, pp. 60–65, we have no proof yet that *Falco gyrfalco* visits any of these islands, and I am inclined to refer all accounts of this bird to *Falco peregrinus*. No species of Grouse (*Lagopus*) has yet been shot here; if present, they would probably be found on Waigats, but we saw no trace of them there or on the more northern lands. The excrement of this bird resists the action of the weather a long time, so that we could scarcely have failed to observe it. As stated above, I believe *Larus affinis* is the only dark-mantled Gull on these islands; and also that *Colymbus adamsi* (not *C. glacialis*) is the large Diver to be found here.

In the following lists the abbreviations are:—

B. Von Baer.
G. George Gillett, Ibis, 1870, p. 303.
H. Th. von Heuglin, Ibis, 1872, p. 60.
Pelz. Von Pelzeln.
Th. Dr. Hjalmar Théel, Ann. Sci. Nat., Sér. Zool. tome iv. art. 6.
M. Admiral Markham, 'A Polar Reconnaissance.'
P. Pearson and Feilden.

List of the Birds of Waigats.

1. Saxicola œnanthe	..	..	P.
2. Anthus cervinus	H.	Th.	P.
3. Linota linaria (?)	..	..	P.
4. Calcarius lapponicus	..	Th.	P.
5. Plectrophenax nivalis	H.	Th.	P.
6. Otocorys alpestris	H.	Th.	P.
7. Nyctea scandiaca	H.	..	P.
8. Archibuteo lagopus	..	..	P.
9. Haliaëtus albicilla	..	Th.	P.
10. Falco peregrinus	..	..	P.
11. Anser segetum	..	..	P.
12. Cygnus bewicki	..	..	P.
13. Mareca penelope	H.		
14. Harelda glacialis	H.	Th.	P.
15. Somateria mollissima	H.	..	P.
16. Œdemia nigra	H.	..	P.

Birds of Waigats (continued).

17. Œdemia fusca	H.		
18. Mergus merganser	..	..	P.
19. —— serrator	H.	..	P.
20. Charadrius pluvialis	H.	Th.	P.
21. Ægialitis hiaticula	H.	..	P.
22. Eudromias morinellus	..	Th.	P.
23. Phalaropus hyperboreus	H.	Th.	P.
24. Tringa alpina	H.	Th.	P.
25. —— minuta	H.	Th.	P.
26. —— temmincki	..	..	P.
27. —— striata	H.	Th.	P.
28. Machetes pugnax	..	..	P.
29. Calidris arenaria	H.		
30. Sterna macrura	..	Th.	..
31. Larus glaucus	H.	Th.	P.
32. —— affinis ?	H.	Th.	P.
33. Stercorarius pomatorhinus	H.	..	P.
34. —— parasiticus	..	Th.	P.
35. Colymbus glacialis ? (C. adamsi ?)	H.		
36. —— arcticus	H.	..	P.
37. —— septentrionalis	..	..	P.
38. Uria mandti	..	Th.	P.

List of the Birds of the South Island of Novaya Zemlya.

1. Anthus cervinus	..	..	..	..	..	P.
2. Calcarius lapponicus	..	..	..	..	..	P.
3. Plectrophenax nivalis	B.	H.	Pelz.	Th.	M.	P.
4. Otocorys alpestris	..	H.	..	Th.	M.	P.
5. Nyctea scandiaca	B.	..	Pelz.	Th.	M.	P.
6. Haliaëtus albicilla	B.	..	..	..	..	P.
7. Falco peregrinus	..	..	Pelz.	..	..	P.
8. Anser segetum	B.	H.	..	Th.	M.	P.
9. —— albifrons	..	..	..	..	..	P.
10. Bernicla brenta	B.	H.	Pelz.	Th.	M.	..
11. Cygnus bewicki	..	H.	...	Th.	..	P.
12. Harelda glacialis	B.	H.	Pelz.	Th.	..	P.
13. Somateria mollissima	B.	H.	Pelz.	Th.	..	P.
14. —— spectabilis	B.	H.	Pelz.	Th.	M.	P.
15. Œdemia nigra	..	H.				
16. —— fusca	..	H.				
17. Mergus merganser	..	..	..	..	..	P.
18. —— serrator	..	..	..	Th.	M.	P.
19. Ægialitis hiaticula	..	H.	..	Th.	..	P.
20. Eudromias morinellus	..	..	..	..	..	P.
21. Strepsilas interpres	B.	..	..	Th.	..	P.
22. Tringa alpina	..	..	Pelz.	Th.		
23. —— minuta	..	H.	..	Th.	..	P.
24. —— striata	B.	H.	..	Th.	M.	P.
25. Sterna macrura	B.	H.	..	Th.	..	P.
26. Pagophila eburnea	B.	H.	Pelz.	Th.	M.	
27. Rissa tridactyla	B.	H.	..	Th.	..	P.

Birds of the South Island of Novaya Zemlya (continued).

28. Larus glaucus	B.	H.	. .	Th.	M.	P.
29. —— canus	B.					
30. —— affinis ?	. .	. .	Pelz.	. .	. .	P.
31. Stercorarius catarrhactes	B.					
32. —— pomatorhinus	. .	H.	. .	. .	. .	P.
33. —— crepidatus	. .	. .	. .	Th.	M.	
34. —— parasiticus	. .	H.	. .	Th.	. .	P.
35. Fulmarus glacialis	. .	. .	. .	Th.	. .	P.
36. Colymbus glacialis ?	. .	. .	. .	. .	M.	
37. —— adamsi	. .	. .	. .	. .	. .	P.
38. —— arcticus	. .	. .	. .	. .	. .	P.
39. —— septentrionalis	B.	. .	Pelz.	Th.	. .	P.
40. Lomvia bruennichi	B.	H.	Pelz.	Th.	M.	P.
41. Uria mandti	B.	H.	Pelz.	Th.	M.	P.
42. Mergulus alle	B.	. .	Pelz.	Th.	M.	P.
43. Fratercula glacialis	B.	. .	Pelz.	Th.		

List of the Birds of the North Island of Novaya Zemlya (*Lutkë Land*).

1. Hirundo rustica	G.			
2. Plectrophenax nivalis	G.	H.	M.	P.
3. Otocorys alpestris	. .	. .	M.	P.
4. Nyctea scandiaca	G.	H.	M.	P.
5. Falco peregrinus	G.	. .	. .	P.
6. Anser segetum	. .	. .	. .	P.
7. —— albifrons	. .	. .	. .	P.
8. Bernicla brenta	G.	. .	M.	
9. Harelda glacialis	G.	H.	M.	P.
10. Somateria mollissima	G.	H.	M.	P.
11. —— spectabilis	G.	. .	M.	P.
12. Mergus serrator	. .	. .	. .	P.
13. Charadrius pluvialis	. .	. .	M.	
14. Ægialitis hiaticula	G.	H.	M.	P.
15. Eudromias morinellus	G.			
16. Strepsilas interpres	. .	. .	M.	
17. Tringa striata	G.	H.	M.	P.
18. Sterna macrura	G.	H.	M.	P.
19. Pagophila eburnea	G.	. .	M.	P.
20. Rissa tridactyla	G.	. .	M.	
21. Larus glaucus	. .	. .	M.	P.
22. Stercorarius pomatorhinus	G.	H.	M.	P.
23. —— crepidatus	G.	. .	M.	
24. —— parasiticus	G.	H.	M.	
25. Fulmarus glacialis	G.	. .	M.	P.
26. Colymbus glacialis ?	. .	. .	M.	
27. —— arcticus	. .	. .	M.	
28. —— septentrionalis	. .	H.	M.	P.
29. Lomvia bruennichi	G.	. .	M.	
30. Uria mandti	G.	. .	M.	P.
31. Mergulus alle	G.	. .	M.	
32. Fratercula glacialis	G.			

List of the Birds observed on Dolgoi Island, July 20*th*, 1897.

1. Anthus cervinus.
2. Calcarius lapponicus.
3. Plectrophenax nivalis.
4. Otocorys alpestris.
5. Nyctea scandiaca (feathers only).
6. Harelda glacialis.
7. Somateria spectabilis.
8. Squatarola helvetica.
9. Ægialitis hiaticula.
10. Eudromias morinellus.
11. Strepsilas interpres.
12. Phalaropus hyperboreus.
13. Tringa alpina.
14. —— minuta.
15. Machetes pugnax.
16. Larus glaucus.
17. —— affinis ?
18. Stercorarius crepidatus.
19. Colymbus arcticus.
20. —— septentrionalis.

List of the Birds observed at Habarova, July 14*th and* 18*th*, 1897.

1. Motacilla alba.
2. Anthus cervinus.
3. Linota linaria.
4. Calcarius lapponicus.
5. Plectrophenax nivalis.
6. Otocorys alpestris.
7. Nyctea scandiaca.
8. Falco æsalon.
9. Harelda glacialis.
10. Somateria species ?
11. Mergus serrator.
12. Ægialitis hiaticula.
13. Eudromias morinellus.
14. Strepsilas interpres.
15. Tringa alpina.
16. —— minuta.
17. —— temmincki.
18. —— striata.
19. Machetes pugnax.
20. Larus glaucus.
21. —— affinis ?
22. Stercorarius crepidatus.
23. —— parasiticus.
24. Colymbus arcticus ?
25. —— septentrionalis.

XVII.—*Note on* Daphœnositta miranda, *De Vis*.

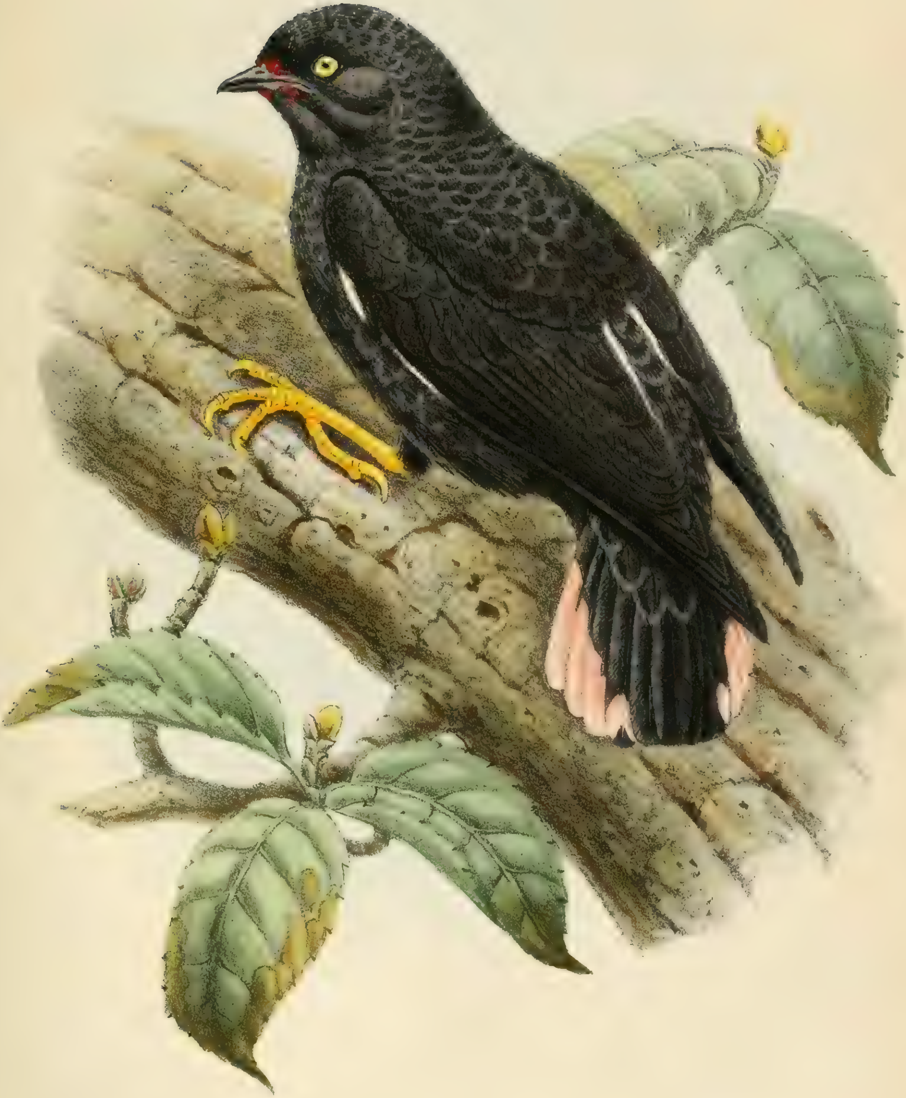
By T. Salvadori, C.M.Z.S.

(Plate IV.)

Mr. Sclater has kindly sent me for inspection a female specimen of the curious new form *Daphœnositta miranda* of New Guinea (Ibis, 1897, p. 380) which he has received from Mr. De Vis, and has requested me to write a few notes on it, which I have great pleasure in doing.

This bird, of which the present specimen was obtained by Signor Giulianetti on Mount Scratchley, at an altitude of 12,000 feet, on the 1st of October, 1896, belongs to the sub-

Ibis 1898 Pl. IV



W. Hart del. et lith.

Mintern Bros. imp.

DAPHŒNOSITTA MIRANDA.

family Sittinæ, but is very remarkable, especially as, in its colouring, it is quite aberrant from its kindred. Mr. De Vis has made it the type of a new genus, and quite rightly so. There can be no possible doubt, however, as to the bird being allied to the Nuthatches (*Sitta*); it comes, in fact, very near the Australian genus *Sittella*. From this it differs principally in the bill, which is much shorter than the head, and has the culmen straight, and not curved upward, as in *Sittella*. The wing is very like that of the members of this genus, and has, like them, a light (white) patch about the middle of the inner web of the quills; but the tail is rather differently shaped, being graduated*, and not square. The feet do not show any important features, being quite Sittine; their colour, in De Vis's description of the genus, is stated to be crimson, but in the description of the species (p. 381), and on the original label of Signor Giulianetti, the feet are described as yellow. The whole bird appears to be more strongly built than the *Sittellæ*. The plumage is peculiar, not only in colouring, but also in being particularly soft.

The male bird has not yet been described, but possibly it will prove to be more brightly coloured than the female, especially about the face.

XVIII.—*On the Habits of the Mutton-bird of Bass Strait, Australia* (Puffinus tenuirostris). By the Rt. Rev. H. H. Montgomery, D.D., Bishop of Tasmania.

For many years, as episcopal duties have called me to the Furneaux Islands in Bass Strait, I have given attention to the habits of what is locally called the "Mutton-bird." This Petrel is now adequately protected by an Act of the Tasmanian Parliament; and although some 400,000 young birds are salted down for consumption in a good year, chiefly by half-castes, yet there is no chance of the extinction of this species under present conditions. The day may come, indeed, when the population in these islands shall have increased so much that fresh legislation may have to be initiated, but that day has not yet arrived. There are also numerous islands near the Victorian coast at present absolutely unvisited, swarming with these birds. The absence of boat-harbours, and as well as of fresh water and wood, protects these summer visitors from depredators. The following facts may be taken as accurate; there is certainly no difference of opinion about them among the people who have spent their lives in these islands:—The Mutton-bird (*Puffinus tenuirostris*) appears with the greatest regularity about Sept. 17th in these waters, having come apparently from the direction of the South Pole; for, after inquiry of the captains of ships, I can discover no one who has met with them between May and September, although their numbers at other times can be computed only by millions. The obvious difficulty is that the season when they disappear is midwinter. It is also noteworthy that the whole period from Sept. 17th till the beginning of May is taken up with the rearing of their young. When they appear in September they are believed to have paired already, and they commence at once to scratch out their holes, the process lasting, with intervals, for six weeks. One bird is seen to be at work at a time, and always in the night. In the daytime they depart seaward. Indeed, so persistent is their desertion of the breeding-places by day that it would be quite possible for unobservant persons to live on these islands and to be unaware that the Petrels breed there at all, except perhaps at the season when the young birds take to the water. It is almost true to say that I never saw a Petrel in the daytime near their rookeries during the eight years that I have been visiting them. The universal belief is that these birds dare not alight on the ground in daylight because of the Gulls and Crows, for the length of their wings makes them unable to fly off flat ground. The Petrels depart about Nov. 1st, and are only seen occasionally till Nov. 20th, when they return in tens of thousands to lay their eggs, one for each pair, and they are laid almost on the same night in each locality. Islands differ, some being earlier than others, but

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* By a misprint in the original description (*l. c.* p. 380) the tail is said to be obtusely "granulated," instead of "graduated."

I have heard of no egg being taken before Nov. 18th. If the egg is taken there is good reason to believe that no other is laid; but the birds, being very gregarious, return to sleep on the rookery, although they may have no young to tend. The Government permits consumption of the eggs on the island, but none are to be exported. As a matter of fact, the eggs are not fit to take after they have been laid three days. During the period of incubation the parents take it in turns to sit, exchanging positions after about a week. The young birds appear about Jan. 15th, and for a fortnight or so they are in danger from the snakes, which swarm on some islands, such as Chappell Island and Babel, and are entirely absent from others, such as Little Dog Island. The eggs, however, are safe, for the old birds can easily defend themselves when sitting. "Birders" say that birds and snakes are not found in the same hole; but if a man seizes a snake in place of a bird he must pull it out, for to relax his grip is to court danger. There are always signs if there is a bird in a hole, for the parents carefully clean out the passage before they depart for the day and stuff the entrance with dry rookery-grass. In March the feathers of the young begin to grow; before this they are fat, downy creatures. By Act of Parliament "birding" commences in Tasmanian lands on March 20th, and continues till the surviving birds fly away about the beginning of May. When the young Petrels are fully feathered the parent birds desert them altogether and depart seaward, the result being that the new generation is driven from the holes by hunger, and, without assistance from the old ones, they have to find their way to the water and to learn to fly and feed. All their travelling is done by night, for fear of their enemies (the large Gulls); but even so a great many are killed upon the water or upon the shore when too weak or inexperienced to escape. Still, in spite of the efforts of man and of winged bipeds, the sea is black with young birds in May, and fully one third of the young Petrels survive.

Let us now imagine ourselves standing on a rookery in the evening awaiting the arrival of the old birds as the sun approaches the horizon. The islands where the Petrels breed are as a rule devoid of trees. They are sandy knolls covered with long grass, and seem useless, except to feed a few sheep. Chappell Island has an area of 1200 acres, Little Dog Island about 120 acres. These are fair specimens of the rookeries, and I have calculated that 40,000 holes per acre is not an exaggerated estimate. All day long the young birds are absolutely silent. The uninitiated might imagine that nothing edible existed underfoot, and that they stood upon a deserted rabbit-warren. Gazing out to sea on all sides, the watcher will not yet detect a single Petrel; not till the sun has set and the darkness is increasing is there any sign of the wonderful rush of birds, which, to a naturalist, is so fascinating a sight. The following figures, noted in the month of February, may be of interest:—6.35 P.M., not a Petrel in sight; 6.40, the first bird visible out at sea; 6.43, the sun disappeared; 6.48, sunset from the top of the lighthouse (Goose Island) and the light flashed out; 6.53 the first Petrel flew rapidly over the island without settling; 6.56, the numbers so great that I ceased counting; 6.58, the numbers become bewildering; 7.6, the numbers at their maximum—tens of thousands whirling, wheeling, flashing up from all sides, are whistling like bullets past one's head, till it seemed almost dangerous to stand up; 7.30, nearly all the birds had arrived. Then, and not till then, do the noises commence. The flight inward of the parent birds is conducted in absolute silence. Nothing, indeed, can be more weird than this rush of dumb creatures, so perfect in flight, but uttering no sound. As soon as the majority have arrived the ground emits the most extraordinary sounds—gurglings, groanings, and hoarse laughter. It must be confessed that there is no music in the note. On Chappell Island some 300,000 young birds would at this moment be receiving oil into their throats, poured into them by the parents, who thus give them the one meal the fledgelings receive in the 24 hours.

I now proceed to give the results of a whole night spent on a large rookery on Big Dog Island, under a full moon, with a roaring westerly gale blowing over the island. It was March 1st, 1896. With watch and pocket-book I lay among the birds or walked silently about, noting what I now set down:—Up to 10 P.M. the underground noises continue, then silence falls on the rookery. The young birds are digesting; the parents are resting; but the latter are not by any means all in the holes, for some of them come out almost immediately and walk about among the long grass, and many of them sleep in the open air. I stepped silently about among them as they crouched on the ground: in no case did they put their heads under their wings, as many birds do. Often one of them walked up to my foot, and the slightest movement on my part sent him scurrying away like a rabbit, quite unable to fly off the ground. The moon was so bright that the rookery was almost as light as day. All night long a few score of birds flitted noiselessly over the rookery, just skimming the tops of the low bushes and passing within a foot of my face as I lay concealed. Hour after hour this graceful quadrille proceeded almost without sound of wings and as from creatures absolutely incapable of speech. At about 2.30 A.M. the rookery awoke. Noises came from all sides; a larger number of birds flashed silently over the ground. I walked towards a sandy ridge some thirty yards from the shore. Scores of birds walked up to the edge, then they raised their wings right over their backs till they nearly met at full stretch. They stood thus quivering in the wind for a few seconds, and then launched themselves into the air and were at once in flight. Close by a bird underground was sending a fountain of sand into the air as he cleaned out the hole preparatory to departure. At 3.15 A.M. the rookery was fully awake: hundreds of birds were leaving. I passed on and laid myself down within eight paces of a large rock with sloping sides and watched the birds as they clambered up it, and, extending their wings in the manner I have described, launched themselves into the air. In every case they faced the wind to perform this operation. At times, indeed, they were so numerous that they were jostling each other, but in perfect harmony. At

4.43 I counted a score on the rock together, and they were all silent; at the approach of daylight, 4.53, quite a rush of birds anxious to depart; 5.5, a few still left; 5.15, the last bird flew away from the rock I was observing. All round hardly a Petrel was visible: just a few were wheeling in mid-air. At 5.19 A.M. the last of these birds disappeared, and the rookery seemed to be absolutely devoid of life. At 5.23, just four minutes after the last Petrel had flown away, I heard the wailing of a Pacific Gull, and its form was visible in the distance. In a few minutes more a squadron of twenty of these creatures, accompanied by as many Crows, came sailing over my head, croaking and calling, and quartering the ground to see whether any belated bird could be discovered. At 5.41 the sun rose. I advance the theory, which is borne out by the experience of all the half-castes and white men who have spent their lives in these regions, that the Sooty Petrels come to feed their young only at night and in complete silence, and leave again before the other birds are awake, because only by this means are they safe from enemies in whose presence they are helpless when on the land. In the air, of course, they fear no such foes.

So far as Tasmania is concerned, these birds are found in greatest numbers in the Furneaux Islands. On Chappell Island, calculating solely by the young birds that had been taken by the half-castes, I computed that there were 990,000 there at night in the breeding-season. Babel Island is supposed to hold even more. Nor does the industry seem to affect the numbers. There are other rookeries on the islands north-west of Tasmania, and also at Port Davey and on the southern coast, but no systematic attempt is made to capture the birds for food, except in the Furneaux Islands, where the half-castes all live—the remnants of the old Tasmanian race—who make a trade of the salting and exporting these birds in barrels. They prefer the Petrels as food to anything else, and sell them at the average price of 7*s.* a hundred. A large family has been known to salt 1000 birds in a day, and their harvest lasts for about six weeks. Before the Government interposed and prevented "birding" till March 20th, there was much danger that the colony would be extirpated; but I consider that the present regulations are sufficient.

A few facts about the process of birding may be of interest. Temporary huts are erected on these islands, and wood and water stored there before March 20th; for, as a rule, these islets are otherwise uninhabited. The workers start from their huts and work outward, but no regular division of ground is made. The "birder" thrusts his arm into the burrow up to the shoulder and secures the young Petrel by the neck, not by the leg. It is most important that the oil, of which the creature is quite full, should not exude from its mouth; if it gets on the feathers these will not scald off. Having broken the bird's neck, he transfers his booty to his left hand and holds it head upward. A dozen can thus be held in the left hand. They are then transferred to a stick, still head upward, and a child takes them to the women, who have tubs of boiling water ready. Before the bird is scalded it is emptied of its oil, which varies from a tablespoonful to almost half a pint at times. The oil is used in lamps and is also sought after for machinery. Enormous shoals of fish are attracted by the entrails of the birds, which are thrown into the sea; but no one has time to fish, for nature has put a limit to the industry. The birds fly away in May.

I add, as a curiosity, a statement of a theory held by every inhabitant of these islands, which will probably cause amusement. Every "birder" says that as soon as the young bird emerges from its hole it commences to eat gravel, that it does so in order to ballast itself, and that no bird can swim upright or fly till it has devoured its ballast. They declare they have tested it times without number. That the birds eat gravel is certain; but whether it is that they are ravenous or that a healthy bird needs some grit inside it before it can feed as the old birds feed, I have no means of deciding. It may be that here we are in the presence of a fact in bird-life which still requires explanation. In future years I hope to be able to time my visit to these regions so that I may be present on Sept. 17th, when the Petrels first make their appearance; and again, on another occasion, when they come back to lay their eggs. An all-night watch will surely elicit facts worthy of observation at these periods.

XIX.—*Further Notes on the Birds of Zululand.*

By R. B. and J. D. S. Woodward.

Our journey in Zululand of 1891–95 was described in a previous communication to 'The Ibis' (see Ibis, 1897, pp. 400–422). On the 24th February, 1896, we re-entered Zululand, this time leaving our cart and oxen behind; it being our intention to visit the "fly-country" in the Lubombo district, where cattle will not live. Meeting a transport-carrier, who was taking two waggons with corn to sell beyond the Black Umfolosi, where the natives were very short of food, we made arrangements with him to convey us on to the Umgome forest, just within the boundary of the Transvaal and a portion of the country obtained by the Boers from Dinizulu after the war. We went to Eshowe by the new waggon-road, and leaving that town we soon reached the Umhlatoosi, the valley of which looked scorched up, and commenced the big hill on the far side—the worst hill we have seen in Zululand, though the road is kept in good repair. We saw some patches of good corn on these high lands which had escaped the ravages of the locusts: the crops not having been completely destroyed, as was the case in the valleys. Passing through Melmoth and wading the Infule, a tributary of the Umhlatoosi, we shortly after sighted the Umfolosi, and, descending its long hill, crossed over and outspanned three miles beyond. The river was very low on account of the drought. Ascending another bad hill and crossing grassy highlands, where our driver shot a steinbok, we reached the Umbegamusa drift, also dried up, and came to a halt at the old camping-ground. We then went on to the Ivuna store, and thence up to the Nongoma heights, where the Magistracy is situated. In the distance we could see the hvati-bushes where we were located last year, but the sea is not visible. Trekking through bare grassy country, we mounted higher and yet higher hills till we crossed the boundary of the Transvaal, and soon came to the great mountain-forest called Umgome. We had at last arrived at a land of verdure, where, during our stay, we were frequently enveloped in mist, though at this season there is little rain. We obtained a great variety of butterflies, but few birds, for the latter do not seem partial to these damp high woods. This forest is twelve miles long by four or five broad, and contains much valuable timber.

Here we found plenty of Pigeons in the trees. Of these, *Columba arquatrix* is a fine bird, 13 inches in length, with bright yellow bill and legs, and from its dark plumage is popularly known as the "Black Pigeon." It seems to confine itself to the woods. We see more of them in the winter, when the berries are ripe; we have noticed tree-seeds in individuals killed. The Green Pigeon (*Treron delalandii*) confines itself mostly to the high trees and is seldom seen on the ground. It is easily shot when engaged in feeding on wild figs or the fruit of the water-boom, to which it is very partial; it is usually fat and the flesh is delicate, though it seems almost a pity to kill such a pretty bird for the pot. We have seen it tame, and it looks well in a cage. This bird has a curious musical cry, and does not "coo" like an ordinary Pigeon.

The Rock-Pigeon (*Columba phæonota*) builds in the kranzes. At the breeding-season it alights on the ledges of the rocks and keeps up a sonorous cooing, bowing to its mate after the manner of the occupants of the dovecot. It flies about in large flocks, and in the early summer it pulls up the young corn as soon as it appears above the ground, doing considerable damage to the farmer, unless kept in check by the shot-gun. We have knocked over a number with one discharge and found them plump and good eating.

The White-breasted Dove (*Tympanistria bicolor*) is abundant here, as in all the woodlands. It is a neat little bird, 8 inches in length. It has a soft voice, which is heard in the heat of the day, when most other birds are silent. It is naturally half-tame, and even old birds when caught soon become contented and happy in confinement. A friend of ours used to keep a number of these little Doves in a large cage; they were caught in the garden, where they came attracted by the fruit of the mulberry-fences. We have found their nests in low trees, where they make a small platform of sticks, and lay two yellowish-white eggs.

The pretty South-African Oriole (*Oriolus larvatus*) is fond of these high trees, and flies up and down the kloofs uttering its loud pleasant cry. Besides this cry it possesses an excellent song, with clear mellow notes. Its bright yellow plumage and black head would make it a handsome cage-bird, but it is difficult to obtain the young. The Golden Oriole (*O. galbula*) is much rarer, and we met with it only south of Natal.

Turdus olivaceus is common in all the woods, and is, perhaps, our best songster. When startled it flies off with a chattering cry, like that of the English Blackbird. The Rock-Thrush (*Monticola rupestris*) is a handsome species inhabiting rocky places and kranzes. It sings its short sweet song while perched on a small tree growing among the rocks. The bright blue head of the male bird is a striking contrast to the rest of the plumage, and the red tail, spread out when flying, is very conspicuous. *Cossypha caffra* is a really good songster, and its sweet notes may be heard to advantage in the early morning before daybreak. It is our "Redbreast," and has the Robin-like habit of jerking up its tail as it hops about looking for insects. *Cossypha bicolor* has a variety of loud monotonous call-notes besides its pleasant song. It is of a retiring disposition and keeps to the cover of the thick bushes.

The "Top-knot Thrush" (*Pycnonotus capensis*) is abundant everywhere. Like the rest of the Bulbuls, it keeps more to the high trees than the true Thrushes. The "Top-knot" has a few agreeable notes; it is a noisy, bold bird, and if it sees a snake or anything else to alarm it, it sets up a loud cackling. It is rather a nuisance in a garden, being fond of papaws, loquats, and other soft fruits. The Green Bulbul (*Andropadus importunus*) is heard everywhere in the bush-lands, pouring forth its blithe song from the topmost branches of tall trees ; it has also a loud shrill call-note. It makes its presence known either by chirping or singing when most other birds are silent, and so earns its scientific name. It creeps nimbly among the foliage, clinging to the nether side of the branches, searching for insects or picking off the berries. *Colius striatus* goes about in small flocks, which are generally found in the scrub on the outskirts of the bush. They have the peculiar Parrot-like habit of crawling about the branches with their heads downward. During their short and rather heavy flights they utter a stridulous cry, which seems to be the only sound they make. The Coly has curious short fur-like feathers, from which the Dutch call it, not inappropriately, the "Muisvogel," or Mouse-bird. It measures, including the long stiff tail, 12½ inches.

There are plenty of Hawks here, as in most parts of South Africa. *Buteo jackal*, which gets its scientific name from its cry being supposed to resemble that of the jackal, is a heavy sluggish bird, and often remains for a long time motionless on the branch of a high tree; but should a rat or a small monkey approach, it is suddenly grabbed before it is aware of the proximity of its dangerous foe. We once procured a young bird of this species and kept it tame for several months, when we gave it its freedom ; but it continued to visit us and was always glad of a feed of raw meat.

The African Goshawk (*Astur tachiro*) is very bold and destructive to poultry : we have seen it dart down and carry off a full-grown fowl within a few yards of the spot where we were standing. When pursuing a flock of Pigeons, its plan is to separate one from the main body, and if it manages this, it soon succeeds in bearing off its prey.

Accipiter minullus is a beautiful little Hawk, not larger in the body than a Thrush, but although so small it is quite as fearless as its larger cousins. A specimen we obtained was taken while vigorously assailing a hen with a brood of chickens, which she was doing her best to defend ; it had actually grasped the fowl by the head, and would probably soon have overcome her had it not been disturbed. We kept one of these little birds in a cage, but it never lost its savage nature, and would not allow any other bird to be confined with it. This group of Hawks grasp their prey by an oblique swoop, and do not pounce upon it, like other species. It is astonishing with what speed they can fly through the trees in spite of the branches, which one would think would form a serious obstacle to such rapid motion.

The Black Hawk (*Lophoaëtus occipitalis*), which is really an Eagle, is handsomely crested, and its legs, covered to the toes with white feathers, are a curious contrast to its black body. It is often seen perched on the branch of a dead tree watching the ground for mice, which constitute its principal food, though it does not despise the larger insects, such as locusts. In its nature it is most inoffensive, and rarely kills even small birds. We have kept an example in confinement, when it makes a nice pet; but it is naturally very tame, and will permit of such near approach that the Kafirs have given it the name of "Isipumongati," or "The Fool." Its voice is a loud piercing shriek.

Elanus cæruleus, as well as the Kestrel, keeps to the outskirts of these woods. Although this Hawk is said to feed chiefly on insects, it killed a canary which we had brought from Capetown: the cage was fixed to a tree, when the savage little creature suddenly darted down and transfixed the poor bird between the bars. We obtained a young one of this species and kept it tame for some time. It is a very noisy bird, with a shrill cry.

Tinnunculus rupicola, called the "Rock-Falcon," is very partial to high kranzes, in the holes of which it builds. It is constantly seen hovering over the veldt in search of mice. We once took two young birds from a hole in the rocks, and they became so tame that they used to fly about the place and come down regularly to be fed. We have taken the eggs of a large Kite (*Milvus ægyptius*) out of a nest built in a high tree: they are white spotted with red, and 2 inches long.

While here we heard of the "rinderpest" which had swept off 600,000 cattle in Bechuanaland, and was advancing with rapid strides through Rhodesia and the Northern Transvaal. To prevent it spreading, the strictest regulations were made regarding the movement of oxen from one district to another, and we were detained here longer than we wished; but at last we got a Boer, who was on his way home, to take us to the border of Zululand. We were now on the banks of the Umkusana, a small stream which flows into the Umkusi, and is sparsely wooded, with small thorns growing on the hillsides in poor-looking soil. Hearing that the Umkusi was better wooded and a good place for birds, we took a two days' journey across country to the Umkusi "Poort," which is the point where the river cuts its way through the Lubombo mountains, the lofty bluffs and kranzes of which were visible long before we reached it.

Leaving the stony kopjes, we passed over extensive mimosa-covered flats, where we sighted a jackal looking uncommonly like a dog as it trotted away, and shot a huge black *imamba* snake 10 feet long, the bite of which is almost instant death. Hastening down the hill, we nearly stumbled over another enormous snake that was lying across the path, and which was probably its mate. We were glad enough to come to the end of this tedious journey and rest alongside the river, under the shadow of the great Echanene, a lofty spur of the Lubombo. This was about the roughest piece of walking we had yet accomplished.

Bee-eaters (*Merops bullockoides*) appear sometimes to assemble in large flocks, and we noticed as many as fifty covering a few trees. *Laniarius quadricolor* was plentiful in the thickets here. Its cry during the pairing-season is very musical, and sounds exactly like "*Bob, bob, bob o'link,*" oft repeated. Here we first met the Zambesi Green Shrike (*Laniarius gularis*), which hops about the thick scrub and has a low chuckling note. A small Green Parrot with yellow under wing-coverts is found here, as in most of the thorn country north of the Umfolosi.

Grey Plantain-eaters (*Schizorhis concolor*), in parties of two or three, are often met with climbing about the thorn-trees, uttering their extraordinary cry like the long drawn-out mewing of a cat. *Indicator minor*, the Lesser Honey-guide, was generally solicitous for us to follow it in quest of honey. It has a peculiar chattering cry which it emits when it wants to lead a person to a bees' nest, and when followed flies on from tree to tree in advance. The natives know the value of this bird, and, when it discovers honey for them, put out a portion for it to eat. The large Red Ground-Cuckoo (*Centropus senegalensis*) was common everywhere. It keeps to the low scrub and is fond of old mealie-gardens. It seems never to fly high, and if disturbed seeks shelter in the neighbouring bushes, from which it never strays far. During the summer its cry is constantly heard, especially in damp weather. Its voice resembles the letter *o* repeated many times, beginning at a high key and falling low.

The Black Duck (*Anas sparsa*) used to fly up and down this river. The young birds seem to remain with their parents for a considerable time; we have seldom seen more than two old Ducks together, but have killed as many as five half-grown birds with one discharge.

Having explored this neighbourhood and collected a few birds, we ascended the hill, about three miles long, from the summit of which we could trace the Umkusi, as it wended its way towards the north end of St. Lucia Lake, into which it flows. The magistrate pointed us out spots frequented by herds of buffalo and other large game, and said that he had met with lions when hunting below. The zebra is also found here, as well as the rhinoceros. There is one fair-sized "bush" up here, but it is steep and stony and does not contain many birds. We got a considerable number of the beautiful Blue Lourie (*Corythaix porphyreolopha*), which feeds on wild figs and berries and keeps mostly to the tops of the trees. The Green Lourie (*Corythaix musophaga*) is much rarer in Zululand, though so common in Natal. This Lourie has a loud croaking cry, which it utters principally at sundown, and flies off when alarmed with a cry not unlike that of a Pheasant. Louries are easily reared and look very handsome in confinement. Guinea-fowl are plentiful; we found them very good eating, not unlike turkey.

After spending a few weeks here we descended to the flats, and five hours' walking through the thorns brought us to the wide Pongola river, which forms the northern boundary of Zululand. At the drift there is a boat and an elevated wire with a cage for conveying the mail across when the river is flooded. We were told that it is sometimes impassable otherwise for six months at a time. There are a great many crocodiles here: two or three times we a saw big yellow brute lying in the shallows or airing itself on a rock. The White-headed Fish-Eagle frequented this river and used to float overhead, uttering its extraordinary loud, clear cries. The river Ifafa in Natal was for some years a favourite haunt of a pair of these birds, and we succeeded in shooting one of them and breaking its wing. It was very savage when taken, lying on its back with its claws extended; but we took it home, operated on its broken limb, and kept it chained by one of its legs to a perch near the house. It ate readily any raw meat, but preferred fish when obtainable; the only trouble we had was its propensity to kill the fowls should they happen to come within reach of its chain. This Eagle was very sharp-sighted, and, if it saw another of its own species high up in the air, used to call to it with its human-like voice. We had it for nearly two years, when it suddenly died—poisoned, we believe, by a native for the sake of its heart, which is used as a love-charm. The two Hornbills *Toccus flavirostris* and *Toccus nasutus* we saw here, but they are not so numerous as at the White Umfolosi. The Crested Hoopoe (*Upupa africana*) flies about among the thorn-trees on these flats, where we constantly hear its curious *"hoop-hoop."* Its flight is slow and undulating, and it does not rise high above the ground. The Black Hoopoe (*Irrisor erythrorhynchus*) is a bush-bird, but it also inhabits copses on the river-banks. It has a loud chattering cry. Its disposition is restless and active; it is always on the alert, scrutinizing the bark of the trees, and jerking its long tail over the branches while it inserts its curved bill into the crevices to extract its insect-food.

On the banks of this river we shot a specimen of the African Buzzard-Eagle (*Asturinula monogrammica*). We also got specimens of the Wattled Starling (*Dilophus caruncalatus*), which we had not previously met with. Among the other birds observed along this river should be mentioned the three Sun-birds *Cinnyris verreauxi, C. gutturalis,* and *C. talatala*; the Kingfishers *Ceryle maxima, Halcyon albiventris,* and *H. orientalis*; the Hornbills *Bucorax cafer, Buceros buccinator,* and *Toccus melanoleucus*; the Shrikes *Laniarius quadricolor, L. poliocephalus, L. rubiginosus, L. sulphureipectus, L. gularis, Prionops talacoma*; the Bee-eaters *Merops bullockoides* and *M. pusillus*; as well as the Roller *Coracias caudata.* We also noticed some Vultures (*Gyps kolbii*) nesting in the large fig-trees. They must lay early, as they appeared to be sitting in July. There were some large Bats here; one which we caught measured 6 inches, with a stretch of wing of 22 inches.

Wading the now shallow stream, we pitched tent in the newly-annexed territory of Sambana, a Tonga chief. On the 22nd July, after a very hot walk of fifteen miles over level country thinly sprinkled with thorns and other small trees, we arrived at the large river Pongola, which we crossed, and encamped on the far side under some huge fig-trees which grow all along the left bank of the river. Here we remained over a month, and although it was still winter some of the trees were coming into flower. Of birds we found the Blue Lourie, the Zambesi and Natal Bush-Shrikes, Green Pigeons, Large Pied Hornbills, Rollers, Bee-eaters, and a large flock of Wattled Starlings, called Locust-birds (*Dilophus caruncalatus*), feeding on their favourite food. A mile down the river we came across quite a colony of *Gyps kolbii.* We could see them sitting in their large stick-nests high up in the branches of the fig-trees, but could not reach them, the trunks being destitute of low branches. One of the handsome White-headed Eagles (*Haliaëtus vocifer*) had built its nest in a high tree on the other side of the river near our tent; as the female was sitting close, we suppose she had eggs. Three kinds of Hoopoes are found here: the Crested, so much like the English species, frequenting the open ground, while the Black and the Red-billed species prefer the more wooded parts.

On the 31st August we obtained bearers and started for Sambana's, which is now part of Zululand. We fixed our tent under the trees on the outskirts of the great Hlatikulu forest, which covers a large portion of this part of the Ubombo range. The natives, who are more Tonga than Zulu, were very inhospitable, and we should have fared badly but for Sub-Inspector Gillson, of the Zululand Police, who was located with his men about two miles off, and who supplied us with all that we required. We built here a hartebeest-hut as a protection from the weather. This is, perhaps, the simplest form of building that can be made, being merely rafters or poles resting on the ground and thatched with grass, looking like the roof of a house without walls. Where long grass is unobtainable, large antelope-skins are used—hence its name. We were repaid for our trouble in coming here, as we obtained some very interesting birds, one of which was Livingstone's Plantain-eater (*Turacus livingstonii*), the finest of the three South-African Louries. We knew it to be an unusual species by its cry, before we shot it; it much resembles *Turacus persa,* but has a taller and more conspicuous crest. We also shot a large Crested Guinea-fowl, probably *Numida verreauxi,* although it does not quite tally with the description given by Mr. Elliot in Dr. Sharpe's book, there being no red on the throat of the male bird. Its plumage is far more beautiful than that of the crowned species, which keeps more to the flat lowlands. So far as we know, the Ungoye is also the only habitat of *Stactolæma woodwardi.*

Mr. Stewart, the magistrate of the Inguavuma district, lent us six court messengers to return as far as Nongoma. This was the longest walk we have taken out here, being a distance of 80 miles; and we had to travel on short allowance of food. A large part of the way was through the *tsetse*-fly belt, so the carriage of goods is very precarious.

Our next stopping-place for any length of time was at the river Ivuna, where we remained six weeks and got a number of birds. The country is well wooded on both sides of the stream. We found a nest of the Hammerkop or "Mudlark" (*Scopus umbretta*); it was an enormous construction of sticks, dried grass, and reeds, dome-shaped and loosely put together, with the entrance at one side. It was built on a ledge of the cliff over the river, and the only way to get at the eggs was to remove the roof. There were four white eggs, like those of a small fowl, but more tapered at one end. We also found several pairs of the Magpie-Shrike (*Urolestes melanoleucus*) nesting in the thorn-trees, and secured their eggs—round, pinkish-white, dotted with brown and purple. These birds keep up a loud and rather harsh whistling. We took one white egg from a nest of the Red Ground-Cuckoo (*Centropus senegalensis*): the nest was placed at the top of a euphorbia, the spiny nature of which makes the tree difficult to climb. The young are curious little creatures, covered with long brown hair, not down like other birds. We shot some Black-bellied Korans (*Otis melanogaster*), which were pretty common. The male bird disclosed its whereabouts by gobbling like a turkey. One night a Koran came to our tent and laid an egg close to the door; it measured 2¼ inches, and was cream-coloured, much blotched with black and brown. We got three species of Plover—the pretty little Senegal Plover (*Cursorius senegalensis*), which we had not met before; the Crested Plover; and the Dikkop. Of the latter we got an egg, the size of that of a Partridge, white speckled and irregularly marked with brown and purple, especially at the large end. The call-note of this bird is loud and sounds like the word "cherawa" repeated three times at intervals accompanied with flapping of wings. Among other birds we obtained here were the Long-tailed Cuckoo (*Coccystes cafer*)—a favourite bird with the natives, who call it the "Inkanku,"—the Grey Lourie, and the Senegal Kingfisher. We saw and heard the South-African Cuckoo (*Cuculus gularis*) for the first time.

On the 13th December we secured the use of a tented waggon and left this district. We outspanned above the Hlabatini Mountains on an extension of the Inkonjeni range, passed Moore's store near the Umfolosi, and soon reached Melmoth. Next day, descending the deep cuttings of the great Izulweni Hill, we pitched our tent in a pretty spot not far from the banks of the Umhlatusi. Everything looked beautifully green here, and we soon obtained quite a number of birds. The notes of the Glossy Cuckoos, Crab-eaters, and Trogons, as well as the sweet song of the Yellow-billed Thrush (*Turdus libonyanus*), were heard all round, while in the reeds the scarlet Bishop-bird, the Cabanis' Weaver (*Hyphantornis cabanisi*)—not hitherto known so far south—and Kafir-Finches were busy nesting. Many trees on the banks of the river were laden with the hanging nests of the Common Speckled Weaver. In the purse-shaped nests of the Bishop-birds were bright blue eggs, the Cabanis' Weaver laying white, and the common variety more or less spotted eggs. We found also a nest of *Oriolus larvatus*. It was well made of fine grass, fastened to the underside of a forked branch and covered outside with lichen, and contained three eggs, white spotted and streaked with black. Here we shot an Oriole which answers to Dr. Sharpe's description of the young male of the Golden Oriole, but we have not met with the latter in its usual plumage. There may possibly be two distinct species. Another bird which has been considered to be the female of the Black Scarlet-chested Sun-bird (*Cinnyris gutturalis*), we think, may be a distinct species; it is a brown-grey bird with the scarlet chest. The black birds are always with us, but the grey varieties make their appearance late in the spring, at which time we have shot many males in full plumage. Among the long sedge-grass we shot some Finches, black with yellow and white shoulders, which we could not identify. On the other side of the river, near Mr. Louw's Cross Roads Hotel, where the country is park-like, we got some birds. Here the Fiscal Shrike is very common, and we obtained the Wryneck (*Iynx pectoralis*), which is a rare bird in Zululand, as well as the very pretty "Blue birds," as we call the Glossy Thrush (*Pholidauges verreauxi*). We found here the stick-nest of the Hatadah Ibis in a tree overhanging a small stream. It contained two large eggs, green smeared and blotched with brown, measuring 2½ inches long. The Common Oxpecker was nesting in the holes of trees; the eggs are white. The rarer species (*Buphaga africana*) we found only at the Umbegamusa, between the Black and White Umfolosi rivers. We got a nest of *Turdus libonyanus* near the river in one of the shrubs; it had four eggs, white blotched with red. There were a few of the Green-and-Yellow Parrot nesting in holes in dead trees in the open; we found one egg, pure white and nearly round. After a short stay here we returned to Eshowe.

XX.—*On the Grey Shrikes of Tunisia.*

By Joseph I. S. Whitaker, F.Z.S.

In my Notes on Tunisian Birds in 'The Ibis' for 1896 (p. 94) I referred to *Lanius fallax* a specimen of Grey Shrike which I had obtained the previous year in the South of the Regency, and which differed entirely from the ordinary form of Grey Shrike found in that country. In the course of a journey I made in the spring of the present year (1897), when travelling in a part of Central Tunisia not previously visited by me, I met with Grey Shrikes exactly similar in plumage-colouring and marking to the above-mentioned specimen referred by me to *L. fallax*. In the same district I also met with other Shrikes, some of which resembled more closely *L. algeriensis*, and some rather approximating to *L. elegans*. I found these birds in the district between Kairouan and Djilma, which immediately adjoins the southern spurs of the Eastern Atlas Mountains and lies between them and the more desert country further south. The character of the country in this district, as might be expected, partakes both of that of the Tell, or region north of the Atlas (the true habitat of *L. algeriensis*), as well as of that of the semi-desert regions bordering the Tunisian Sahara, where *L. elegans* occurs. Its altitude is comparatively insignificant, being only a few hundred feet above sea-level, and very much below that of the High Plateau to the north and north-west, although always higher than the depressed plain of Kairouan and the low-lying country further east. Fairly well watered in winter and spring, this district has a tolerably luxuriant vegetation, vast stretches of corn-land occurring, interspersed with olive-groves, and plentifully dotted over with clumps of thick bushes, chiefly of *Zizyphus, Lotus,* and other thorny plants.

As stated in my 'Notes,' on comparing the specimen of doubtful Grey Shrike obtained from South Tunisia with examples of *L. fallax* in the British Museum, I found it agree so closely with some of them that I determined to refer it to this species. Having, however, now obtained similarly-plumaged birds from a district in Central Tunisia which may be considered the meeting-ground of the two species *L. algeriensis* and *L. elegans,* I am inclined to look upon these birds as being either hybrids between the two species, or else as belonging to intermediate forms modified according to the natural characteristics of the localities where they may occur; in any case I think it evident that they should not be referred to *L. fallax,* admitting this to be a good species, which is perhaps open to doubt.

Which of the two theories I have just mentioned may be the correct one I am not prepared to say, although the balance of evidence is perhaps somewhat in favour of the former. The theory of hybridism, unentertainable as it might be in certain cases, is certainly not improbable in a case like the present, where the two species in question are so closely allied, and where no sufficient natural boundary or division exists to keep them apart, for the Atlas Mountains in Tunisia do not form the same unbroken barrier that they do further west.

In favour of this theory, moreover, are the following facts: firstly, that, so far at any rate as I have been able to ascertain, there does not seem to be a gradual continuity of intermediate forms connecting or uniting the two species; and secondly, that in the particular district where these nondescript birds occur we do not find one constant type, but individuals which vary in plumage among themselves, some resembling more *L. algeriensis*, and some *L. elegans*, and others again standing halfway between the two.

On the other hand, in support of the alternative theory of intermediate forms, may be adduced the argument that the difference between the two Shrikes, *L. algeriensis* and *L. elegans*, although sufficiently pronounced in typical examples, is after all merely one of plumage-colouring, or, to be more precise, I should say a difference in the shade of plumage-colouring and in the proportion of black and white markings, this difference being subject to modification according to the locality inhabited. Structurally there would appear to be no difference whatever between the two species. In the case of typically-plumaged birds, besides the very marked difference in the shade of the general grey colouring, both above and below, we have that of the marking of the wings and tail-feathers, there being, roughly speaking, more black and less white in *L. algeriensis*, and *vice versa* in *L. elegans*, and these points of difference seem to be fairly constant, so long as we confine ourselves to typical specimens. When, however, we leave these, we find the difference between the two species less marked and no longer constant; and when we come to birds like those occurring in the particular Central Tunisian district I have mentioned, it is absolutely impossible to decide to which of the two species they may belong.

At the same time I feel bound to confess that, until I met with these intermediate birds last spring, I never experienced any difficulty in referring specimens obtained to either one or the other of the two species.

The presence or absence of the white superciliary streak is not a distinguishing feature, as, although but faintly indicated, it is generally to be observed in specimens of *L. algeriensis* as well as in *L. elegans*.

In conclusion, I would say that, whatever may be the solution of the question, it is quite possible and even probable that a certain modification of plumage colouring occurs in both *L. algeriensis* and *L. elegans*, which is due solely to local causes, and this modification is perhaps greater in the case of the latter species, owing to its more extended range. I may add that I have examined a large series of Grey Shrikes from all parts of Tunisia, and have also compared the Tunisian birds with specimens from Algeria and Morocco. The Algerian and Tunisian Grey Shrikes appear to be identical. Those from Morocco are also identical so far as the north is concerned—that is to say, *L. algeriensis* is found in the north of Morocco precisely similar to *L. algeriensis* as found in the north of Algeria and Tunisia. Further south in Morocco, however, a somewhat different form occurs; but with regard to this I may have something more to say at a future date.

XXI.—*On the Nests and Eggs of some rare Philippine Birds.*

By W. R. Ogilvie Grant and John Whitehead.

(Plates V. & VI.)

The collecting and identification of birds' eggs on the great forest-covered islands of the Equatorial East is by no means so easy as it is in more northern latitudes, where nearly all birds are obliged to nest during the warm season of the year, and, with most species, their young must be sufficiently advanced to enable them to cover the enormous distances of their autumnal migrations. The necessity for a general breeding-season is especially noticeable among the many thousands of birds which retire annually to the circumpolar region in the months of April and May, and return southward, with their full-grown young, about the middle of August or in September.

In tropical countries there is no forced migration or danger to backward young through climatic reasons, and birds' nests containing eggs or young may be met with in every month of the year; the collector is therefore often doubtful as to the period when certain species will be found incubating. The months selected by most species are those towards the end of the wet season in localities where the seasons are strictly ruled off, as the dry season which follows is often a prolonged drought. In the equatorial regions, where the rainfall is often almost perpetual, birds breed most freely during the driest time of the year. This I noticed on Kina Balu in March and April—the driest months—when numbers of nests were found.

The small number of eggs laid by most species in hot climates is very noticeable. Two eggs, as a rule, complete the sitting, and this occurs in genera the representatives of which in temperate climates lay from five to six eggs to a sitting. Nor do birds appear to nest more frequently in the tropics—some species, it is true, nesting twice in the year, but not oftener.

The enemies of nesting-birds are not nearly so numerous in temperate as in tropical regions. In the former many species have few enemies except man, and therefore seek seclusion away from human habitations—often building rather conspicuous nests in high trees, or on the ground in swampy districts, in open plains where a good watch may be kept and ample warning given on the approach of man. In tropical regions the order of things is reversed: many large forest-frequenting species nesting in clearings and localities sufficiently frequented by man, in order to secure protection from still greater enemies. Doubtless the greatest enemies birds have in the tropics are monkeys, which are often abundant; while squirrels and huge tree-climbing monitor-lizards are also numerous. As all these enemies seldom leave the true forest, birds are able to rear their young with less risk in more open localities. During seven years spent in tropical islands I have never noticed a nest in the branches of a high tree in true forest. The larger Hawks prefer small patches of timber at some distance from the forest; and in the neglected clearings of the Dusans, round the base of Kina Balu, many forest-frequenting species were found nesting, such as the Fruit-Pigeon (*Carpophaga badia*). The Cuckoo-Doves (*Macropygia emiliana* of Borneo and *M. tenuirostris* of the Philippines) nest in open localities in dead bracken only a foot or two above the ground, their plumage assimilating perfectly with the dead fern.

Large clearings in which the huge dead trunks of rotting forest-giants remain standing are the favourite breeding-places of many species. Some of these trunks are bored by Woodpeckers in dozens of places. In these old borings Parrots of the genera *Tanygnathus* and *Prioniturus* form nesting-colonies and rear their young in security; while, of the Starling tribe, *Sarcops* and *Calornis* may be noticed breeding in numbers in the same trees. *Calornis* is, however, very partial to dovecots, nesting in the boxes with domestic Pigeons. The Pigmy Falcon (*Microhierax*) I also noticed nesting high up in a hole in one of these dead trunks. The commonest eggs, perhaps, found in the East are those of the Bulbuls, *Pycnonotus* and *Iole*. These nests are generally on the edge of the forest or in some isolated bush in old clearings. The species which prefer to remain in the true forest for their nidification, such as Woodpeckers and Barbets, nest often in impregnable strongholds; while Hornbills, which are too large to enter a hole small enough to keep out their enemies, build the hen in with gums, and she has to remain thus imprisoned until the young one is able to fly. In the low growth in true forest we find numbers of birds nesting :—Flycatchers, among the masses of forest-drift which collect among the clumps of bamboo and in the low trees, or in the long dangling pieces of moss which hang from the trees; while the Green Broad-bill (*Calyptomena*) also utilizes these masses of moss, selecting a piece at the end of some slender bough in the undergrowth, and for greater security often over a pathway. Many of the small ground-frequenting Timeliines nest among the forest-refuse in thickets or bamboo-clumps. Their nests are generally loose balls of leaves, entered at the side, but more nests of many of this genus are built away from the forest in old overgrown clearings. The sea-coast is quite a favourite locality for

Nightjars. I have taken their eggs among the sea-drift just above high-water mark both in Borneo and the Philippines. The various Sun-birds or Nectariniidæ suspend their bag-shaped nests on single trees in open plains at no great distance from the ground, or in and about the native villages. *Æthopyga magnifica* of Negros nests in true forest, but the nests of this genus mimic so closely the hanging masses of dead leaves and other débris that they are most difficult to find. Everett's Spider-hunter (*Arachnothera everetti*) of Borneo stitches a neat cradle to the underside of some large leaf, generally one of the forest bananas, in open localities. The Tailor-birds (*Orthotomus*) often nest close to the ground near some frequented pathway; and I have found the elegant cup-like nest of the Little Blue-headed Flycatcher (*Rhipidura cyaneiceps*) on a dead bough which had fallen across a pathway in a most exposed position.

The bird-collector, however, seldom finds many nests, for unfortunately his very occupation is contrary to success; birds, as a rule, being shot at sight, as the forests are so thick and vast that the lengthened observation of a bird is next to impossible.

The two plates of eggs which illustrate this paper have been executed by Messrs. Pawson and Brailsford, of Sheffield.

1. CORVUS PHILIPPINUS (Bonap.). Philippine Crow.

A. Clutch of 3 eggs. Marinduque, May 1888. J. B. Steere.

Shape ovate. Ground-colour pale sea-green, thickly mottled all over, especially towards the larger end, with olive-brown; under-markings faint grey. Measurements 43 mm. × 28 mm.

The nest is a loosely-constructed platform of fibre, mixed with a few rootlets, &c.

2. CORVUS PUSILLUS Tweedd. Small Philippine Raven. (Plate VI. fig. 5.)

A. 1 egg taken from oviduct of female. Mindoro, June 1888. J. B. Steere.

Shape ovate, rather rounded towards the smaller end. Ground-colour pale greenish white, finely spotted and dotted over the entire shell with greenish brown and pale lavender. Measurements 38 mm. × 26 mm.

3. Oriolus chinensis Linn. Chinese Oriole.

A. Clutch of 3 eggs. Cape Engaño, North-east Luzon, 15th April, 1895. J. Whitehead.

Shape ovate. Pure white, with scattered spots and minute dots of deep blackish brown, and a few faint under-markings of slate-grey. Measurements 32 mm. × 23 mm.

B. Clutch of 2 eggs. Fuga Island, Babuyan Group, North Luzon, 5th April, 1895. J. Whitehead.

Similar to the above. Measurements 33 mm. × 22 mm.

The first nest was placed in a casuarina-tree on the sea-coast at some distance from the forest; the second was found in a high tree close to the freshly-made nest of the White-breasted Sea-Eagle (*Haliaëtus leucogaster*) from which the bird was disturbed.

Both nests were of the usual Oriole type.

C. Clutch of 4 eggs. Marinduque, 12th May, 1888. J. B. Steere.

Similar to the above. Measurements 31 mm. × 23 mm.

4. Edoliisoma cærulescens Blyth. Luzon Cuckoo-Shrike. (Plate VI. fig. 3.)

A. 1 egg. Benguet District, North-west Luzon, 14th March, 1894. J. Whitehead.

Shape ovate. Ground-colour pale blue, spotted and dotted over the entire shell. Under-markings grey and greyish lilac; over-markings dark brown. Measurements 29 mm. × 21 mm.

This egg was taken from the bird.

5. Zeocephus rufus (G. R. Gray). Chestnut Flycatcher. (Plate V. fig. 4.)

A. Clutch of 3 eggs. Cape Engaño, North-east Luzon, 24th April, 1895. J. Whitehead.

Shape ovate. Ground-colour pure white, with a decided zone of small blotches and spots round the pole of the larger end; upper-markings brown-lake, and under-markings lilac. Two of the eggs have small dots of the darker colour thinly scattered over the whole shell, while in the third these markings are almost entirely confined to the zone. Measurements 22 mm. × 16 mm.

Nest much like that built by *Hypothymis azurea*, and placed in similar positions, but within the brown lining is a second lining of fine black fibre taken from the base of the palm-leaves.

6. Rhipidura cyaneiceps (Cassin). Blue-headed Fan-tailed Flycatcher.

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 29th April, 1895. J. Whitehead.

Shape ovate. Ground-colour rich cream-colour. A zone of spots and small blotches round the larger end; the under-markings pale slate-grey, the over-markings darker cream-colour. Measurements 19 mm. × 14 mm.

Nest of the usual cup-shaped type made by all the species of *Rhipidura*, and placed on a dead bough in an open pathway in a conspicuous position.

7. Rhipidura nigritorquis Vigors. Black-necked Fan-tailed Flycatcher.

A. Clutch of 2 eggs. Marinduque, 8th May, 1888. J. B. Steere.

Shape ovate. Ground-colour pale creamy white, with a rather wide zone round the middle composed of small blotches and spots of pale yellowish brown or lavender-grey; a few scattered spots of the same colours over the rest of the shell. Measurements 18 mm. × 14 mm.

B. Clutch of 3 eggs. Marinduque, 12th May, 1888. J. B. Steere.

Similar to A, but the markings are rather smaller. Measurements 19 mm. × 15 mm.

Eggs of this species are indistinguishable from those of *R. javanica*.

The two nests are of the usual cup-shaped type, constructed of tightly-woven fibre and wide dead grass bound together with spiders' webs, and neatly lined with fine grasses and black fibre.

8. Rhinomyias albigularis Bourns & Worcester. White-throated Flycatcher. (Plate V. fig. 3.)

A. Clutch of 2 eggs. Base of Canloan Volcano, Central Negros, 31st March, 1896. J. Whitehead.

Shape short ovate, one much blunter at the small end than the other. Ground-colour very pale dull rufous, indistinctly mottled all over with darker shades of the same colour. In general appearance these eggs strongly resemble one type laid by the Common Robin. Measurements 23 mm. × 17 mm.

The nest, composed of moss and lined with fine roots, was placed in a hole in an old rotten tree about six feet from the ground. The eggs were partially incubated, and the female was snared on the nest.

9. Muscicapula samarensis Bourns & Worcester. Samar White-browed Flycatcher. (Plate VI. fig. 6.)

A. 2 fresh eggs. Near Paranos, Samar, 17th June, 1896. J. Whitehead.

Shape ovate. Ground-colour beautiful sea-green, speckled all over, especially towards the larger end, with pale brown, the over-markings being slightly darker and smaller. Measurements 19 mm. × 13 mm.

The nest, a remarkably frail structure, was made of roots and lined with broad leaves. It was well concealed, being placed close to the ground in a heap of forest-drift near some rocks. The female bird was snared.

10. Hypothymis azurea (Bodd.). Black-naped Flycatcher.

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 24th May, 1895. J. Whitehead.

Shape rounded ovate. Ground-colour pure white, thickly speckled, especially round the larger end, with small spots and dots of brown-lake and with a few pale lilac under-markings. In general character these eggs resemble those of the Tits (Paridæ). Measurements 17 mm. × 14 mm.

Nest cup-shaped, generally placed in a forked branch among the lower growth in old forests. The structure is made of moss firmly bound together with white spiders'-web and lined with fine brown fibre.

11. Turdus nigrorum Grant. Negros Blackbird. (Plate V. figs. 8 & 9.)

A. Clutch of 2 eggs, much incubated. Canloan Volcano, 6600 feet, Central Negros, 12th April, 1896. J. Whitehead.

Shape ovate. Ground-colour very pale green: one egg very thickly mottled with brick-red, almost hiding the ground-colour; the second blotched towards the larger end and more thinly marked over the rest of the shell, showing the very pale red-lilac clouded under-markings. As compared with eggs of the Common Blackbird, the above are very much redder, and closely resemble those of *Turdus simillimus*.

On the 21st of April, 1896, a second nest was found containing two young birds, indicating that two eggs are probably a full clutch.

The nests were placed in a prickly creeping palm ("pandan" of the Malays) about 12 feet from the ground.

12. Iole mindorensis Steere. Mindoro Streaked Bulbul. (Plate V. fig. 2.)

A. Clutch of 2 eggs. Mindoro. J. B. Steere.

Shape ovate. Ground-colour pale pink, blotched with light red, spotted with dark reddish brown, and with numerous grey under-markings. Measurements 27 mm. × 19 mm.

The nest is rather loosely constructed of dead leaves and fibre, and lined with dead wiry grass and fibre.

13. Iole philippensis (Gmel.). Philippine Streaked Bulbul.

A. Clutch of 2 eggs, much incubated. Cape Engaño, North-east Luzon, 23rd May, 1895. J. Whitehead.

Shape ovate. Ground-colour pure white, thickly speckled all over with brown, lake, and pale violet under-markings. Measurements 29 mm. × 20 mm.

The nest, which is constructed of fine roots, like that of other Bulbuls, was placed in a bush in the vicinity of the forest.

14. Pycnonotus goiavier (Scop.). Yellow-vented Bulbul.

A. Clutch of 2 eggs. Near Paranos, Samar, 24th June, 1896. J. Whitehead.

Shape ovate. Ground-colour pale pinkish white, very thickly mottled all over with light red and underlying greyish-lavender blotches. Measurements 21 mm. × 15 mm.

Nest cup-shaped, built of fine roots, and placed in a low tree about 5 feet from the ground in an open situation.

B. Clutch of 3 eggs. Dumaguete, Negros, 11th February, 1888. J. B. Steere.

Less thickly mottled than clutch A. The ground-colour nearly white and more conspicuous, especially towards the smaller end, the pale lavender under-markings forming extensive blotches towards the larger end. Measurements 22 mm. × 16 mm.

C. Clutch of 4 eggs. Marinduque, 12th May, 1888. J. B. Steere.

Shape blunt ovate. Two of the eggs resemble those of clutch A; the other two have the over-markings more blended and blotchy. Measurements 21 mm. × 16 mm.

15. Cittocincla luzoniensis (Kittl.). Philippine Shama. (Plate VI. fig. 4.)

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 27th April, 1895. J. Whitehead.

Shape short ovate. Ground-colour pale sea-green, profusely spotted and blotched all over, especially towards the larger end, with reddish brown and with some indistinct lilac under-markings. Measurements 21 mm. × 16 mm.

B. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 26th May, 1895. J. Whitehead.

Rather more oval in shape than the above and more richly marked. Measurements 23 mm. × 16 mm.

One nest was placed in the hollowed-out stem of a dead palm broken off by the wind, the other in a hollow stump close to the ground; in both cases the nest was composed of moss and dry grass.

16. Orthotomus chloronotus Grant. Green-backed Tailor-bird.

A. Clutch of 3 eggs. Province of Isabella, North-east Luzon, 29th May, 1894. J. Whitehead.

Shape ovate. Ground-colour pure white, thinly spotted and dotted all over with brown-lake over-markings and a few pale reddish-lilac under-markings. Measurements 16 mm. × 13 mm.

The nest of the Green-backed Tailor-bird is of the ordinary type, being a pocket formed by two leaves sewn together. It was placed among the herbage by the side of a path about 8 inches from the ground.

On the 19th of May a second nest was found on a small islet in a stream where a few slender large-leaved plants were growing just above the water. This nest contained two young birds.

17. Megalurus ruficeps (Tweedd.). Rufous-headed Marsh-Warbler. (Plate V. fig. 7.)

A. Clutch of 3 eggs. Marinduque, 8th May, 1888. J. B. Steere.

Shape oval. Ground-colour very pale pinkish white, sparingly marked all over with small blotches and minute dots of light red and pale violet-grey under-markings, the latter forming a more or less distinct zone round the larger pole. Measurements 21 mm. × 16 mm.

Nest of the Bulbul type, lined with fine wiry grasses and fibre.

18. Macronus mindanensis Steere. Hairy-backed Babbler.

A. Clutch of 3 eggs. Near Paranos, Samar, 15th June, 1896. J. Whitehead.

Mr. Whitehead found a nest of this species containing three eggs. These were in such an advanced stage of incubation that the young birds hatched out a few hours after the eggs were placed in his room.

Eggs pure white, thickly speckled towards the larger end with dark red.

The nest, a large ball of bamboo-leaves and loosely constructed, was placed close to the ground in old forest.

19. HYLOTERPE PHILIPPINENSIS Walden. Yellow-bellied Thick-head. (Plate V. fig. 1.)

A. Clutch of 2 eggs (nearly hatching), 1 broken. Near Paranos, Samar, June 1896. J. Whitehead.

Shape ovate. Ground-colour brownish cream-colour, shading into a zone of deeper colour round the larger end; the zone is ornamented with spots of pale sienna-brown and larger underlying markings of bluish grey. Measurements 23 mm. × 17 mm.

Nest cup-shaped, very similar to that constructed by *Iole philippensis*, and composed of similar materials—fine roots and dead leaves. It was situated in the undergrowth of old forest in a small tree about 10 feet from the ground, and the female bird was obtained.

20. ÆTHOPYGA MAGNIFICA Sharpe. Magnificent Sun-bird. (Plate V. figs. 5 & 6.)

A. Clutch of 2 eggs. Negros, February 1888. J. B. Steere.

B. Clutch of 3 eggs, hard set (1 broken). Base of Canloan Volcano, Negros, 23rd March, 1896. J. Whitehead.

Shape ovate. Ground-colour pale terra-cotta red, very thickly mottled all over with a darker tint of the same colour, the mottlings heaviest at the larger end, a few fine hair-like scribblings crossing the shell transversely. Measurements 17 mm. × 12 mm.

C. Clutch of 2 fresh eggs (1 broken). Base of Canloan Volcano, Negros, 15th April, 1896. J. Whitehead.

Ground-colour as in the above, but the shell heavily clouded with rich dark terra-cotta and darker scribblings and specks of the same colour. Measurements 16 mm. × 12 mm.

This Sun-bird nests in old forest. The nest is generally found suspended among forest débris in the vicinity of some huge tree-trunk only a few feet from the ground. It is well hidden by the undergrowth.

The nest is a well-woven bag-shaped structure, with a roofed entrance at the side. It is principally constructed of fine grass, rootlets, palm-fibre, and fragments of dead leaves woven together with spiders' webs and lined with fine dead grass-tops and seeds.

The nest found by Professor Steere was suspended from a root under the overhanging bank of a river, and looked like a tuft of rubbish left by high water.

21. ÆTHOPYGA BELLA Tweedd. White-bellied Sun-bird. (Plate V. fig. 10.)

A. Clutch of 3 fresh eggs. Near Paranos, Samar, 19th July, 1895. J. Whitehead.

Shape ovate. Ground-colour pale pinkish white, a heavily-marked irregular zone of dull red towards the larger end, and some scattered spots and blotches of the same colour over the rest of the shell, with here and there underlying brown markings. Measurements 14 mm. × 10 mm.

The nest built by this Sun-bird differs considerably from that made by *Æ. magnifica*, being a long bag-shaped pocket, with a loose dangling tail of dead leaves. The entrance is at the side and roofed over, in fact very much like that constructed by the different species of *Cinnyris*. This nest was found dangling to a bramble in an old native clearing some distance from the forest. The female was obtained after much difficulty.

22. EUDREPANIS PULCHERRIMA (Sharpe). Short-tailed Yellow-rumped Sun-bird.

A. Clutch of 3 slightly incubated eggs. Near Paranos, Samar, 26th June, 1896. J. Whitehead.

Shape ovate. Ground-colour dull pink, rather thickly mottled all over with pinkish grey, especially towards the larger end, the markings forming a rather distinct zone round the pole. The over-markings are small rounded spots and dots of deep vandyke-brown. Measurements 15 mm. × 12 mm.

Nest attached to the underside of a climbing fern about 8 feet from the ground.

23. CINNYRIS JUGULARIS Linn. Yellow-breasted Sunbird.

A. Clutch of 3 eggs. Marinduque, 17th May, 1888. J. B. Steere.

Shape ovate. Ground-colour whitish, partially obscured by the mottled grey under-markings, which cover the greater part of the shell; over-markings pale brown, with a few spots and irregular marks of a deep brown. Measurements 16 mm. × 12 mm.

The nest is a neatly-woven pocket-shaped structure, with a roofed entrance at the side. It is composed of fibre, dead grasses, and other forest débris, bound together with spiders' webs, and lined with cotton and fine grass.

24. DICÆUM HÆMATOSTICTUM Sharpe. Blood-breasted Flower-pecker. (Plate VI. fig. 2.)

A. 1 egg, quite fresh. Base of Canloan Volcano, Central Negros, 19th March, 1896. J. Whitehead.

Shape ovate. Ground-colour very pale greenish white, profusely spotted towards the larger end with rather heavy clouded lilac under-markings and olive-brown specks, which are distributed sparingly over the rest of the shell. Measurements 17 mm. × 12 mm.

The only nest found was suspended from the end of a branch some distance from the ground.

25. DICÆUM CINEREIGULARE Tweedd. Mindanao Orange-breasted Flower-pecker.

A. 2 eggs. Near Paranos, Samar, 20th July, 1895. J. Whitehead.

B. 2 eggs. Near Paranos, Samar, 26th July, 1895. J. Whitehead.

C. 2 eggs. Near Paranos, Samar, 30th July, 1896. J. Whitehead.

Shape rather long ovate. Pure white. Measurements 15 mm. × 12 mm.

Nest round, pocket-shaped, with the entrance at the side, suspended from slender boughs or to the stem of a large leaf. The outside of the nest is made of green moss bound together with spiders' webs, the inside lined with the dark brown down stripped from the young fern-fronds. A favourite site is a neglected native clearing some distance from the forest.

26. Loxia luzoniensis Grant. Philippine Crossbill.

In the end of December, 1893, Mr. Whitehead noticed a pair of these Crossbills with nesting materials in their bills. In the following January, while in the highlands of Benguet, he found a nest containing three eggs and situated at the end of a pine-branch. The slender branch overhung a steep slope, and it was found impossible to secure the eggs. Again, on Mount Data, towards the end of January 1895, after much trouble, a second nest was discovered near the top of a high pine-tree. This nest contained four young birds, two of which flew away before they could be secured.

27. Calornis panayensis (Scop.). Panay Glossy Starling. (Plate VI. fig. 1.)

A. Clutch of 3 eggs. Province of Isabella, North-east Luzon, 28th April, 1894. J. Whitehead.

Shape sharp ovate. Ground-colour beautiful sea-green, blotched and spotted towards the larger end with pale reddish lilac under-markings and sienna over-markings. Measurements 27 mm. × 19 mm.

B. Clutch of 2 eggs. Province of Isabella, North-east Luzon, 28th April, 1894. J. Whitehead.

As above, but in one egg the markings are much fewer, and in the second they are reduced to small dots and specks, which are scattered over the greater part of the shell, though most numerous towards the larger end. Measurements 25 mm. × 20 mm.

A colony of these Starlings was found nesting in a dovecot along with numbers of domestic Pigeons. The nests contained eggs and young of all ages. Three appeared to be the maximum number of eggs laid by one bird.

28. Alauda gulgula Frankl. Chinese Skylark.

A. Clutch of 3 eggs. Province of Isabella, North-east Luzon, 25th May, 1894. J. Whitehead.

Shape ovate. Ground-colour very pale greenish white, variously mottled and spotted with pale french-grey undermarkings and brown upper-markings. In one egg the markings are chiefly concentrated into a zone round the middle of the shell; in the other two they are pretty equally scattered over the whole shell. Measurements 21 mm. × 16 mm.

B. Clutch of 2 eggs. Province of Isabella, North-east Luzon, 25th May, 1894. J. Whitehead.

Much like the above and equally spotted all over, but the over-markings are of a more yellowish brown. Measurements 22 mm. × 15 mm.

This Lark was nesting in an open bit of country thinly covered with tufts of grass, beneath which the nests were concealed. Fully-fledged young birds of this species were also observed on the same date.

29. MUNIA JAGORI Cab. Little Chestnut Weaver.

A. Clutch of 5 eggs. Philippine Is. J. B. Steere.

Eggs ovate. Pure white. Measurements 16 mm. × 11 mm.

Nest large, loosely constructed of broad grasses and strips of bamboo-leaf and lined with dead grass-tops.

30. PITTA ATRICAPILLA Less. Philippine Black-headed Pitta.

A. Clutch of 2 eggs (1 accidentally broken). Near Paranos, Samar, 30th June, 1896. J. Whitehead.

Shape rounded ovate. Ground-colour pure white, thickly speckled all over with brown and larger underlying spots of french-grey, the latter being most numerous round the larger pole. Measurements 26 mm. × 21 mm.

The nest with two slightly incubated eggs (one of which was broken) were brought by a native, together with the parent birds. The somewhat bulky nest was composed outwardly of twigs and lined with moss.

31. CAPRIMULGUS GRISEATUS G. R. Gray. Gray's Philippine Nightjar. (Plate VI. fig. 7.)

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 26th May, 1895. J. Whitehead.

Shape elliptical oval. Ground-colour pale creamy white, with very pale lavender-grey under-markings and very pale brownish over-markings. The blotches and markings, none of which are very large, are unevenly distributed over the whole surface. Measurements 31 mm. × 22 mm.

The eggs were placed on the sand just above high-water mark among sea-drift, which, in this instance, consisted of huge tree-trunks. Both birds were seen and identified beyond doubt.

32. CAPRIMULGUS MANILLENSIS G. R. Gray. Manila Nightjar.

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 22nd May, 1895. J. Whitehead.

Shape elliptical oval. Ground-colour pale cream, under-markings pale lavender-grey, irregularly blotched over-markings pale brown, but darker than in *C. griseatus*. In one egg the over-markings are almost wanting, being reduced to one or two blotches. Measurements 29 mm. × 22 mm.

Also found nesting on the sea-coast outside the forest limit.

33. GEOPELIA STRIATA (Linn.). Barred Ground-Dove.

A. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 3rd May, 1895. J. Whitehead.

B. Clutch of 2 eggs. Cape Engaño, North-east Luzon, 5th May, 1895. J. Whitehead.

Shape perfect oval. Pure glossy white. Measurements 27 mm. × 21 mm.

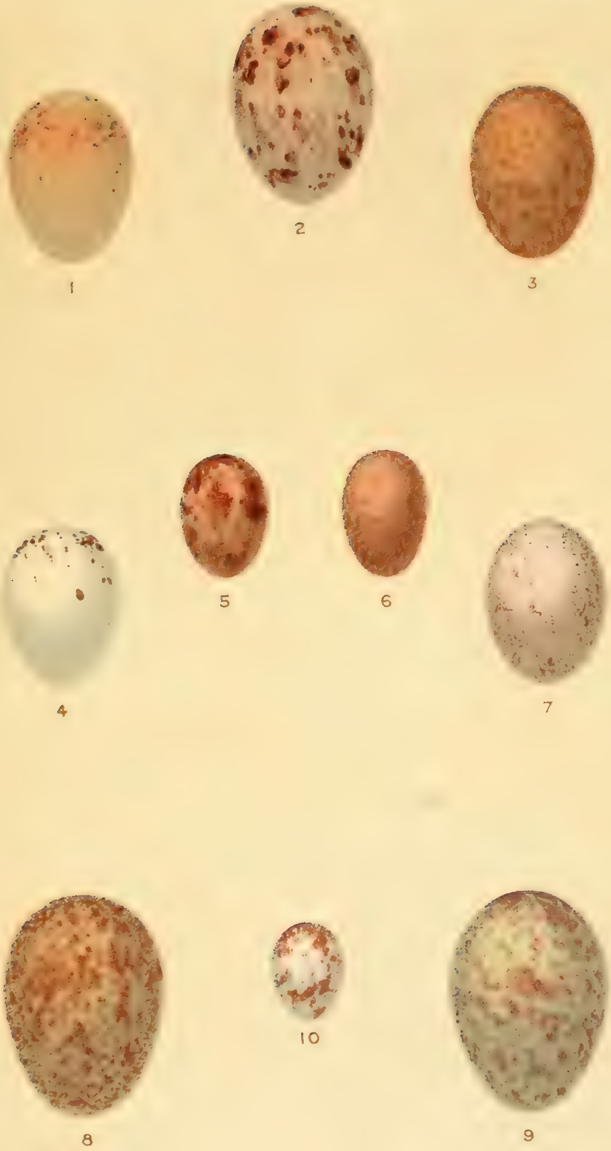
This species nests in the lower growth of old forests, the frail nest of twigs being often placed among the hanging creepers. Generally two eggs are laid.

34. GALLINULA CHLOROPUS Linn. Moorhen.

A. Clutch of 4 eggs, much incubated. Samar, 25th August, 1896. J. Whitehead.

The eggs are perfectly similar to those laid by European Moorhens, but the number of eggs in the clutch, as well as their relatively smaller size, is noteworthy. Measurements 42 mm. × 39 mm.

Ibis. 1898. Pl. V.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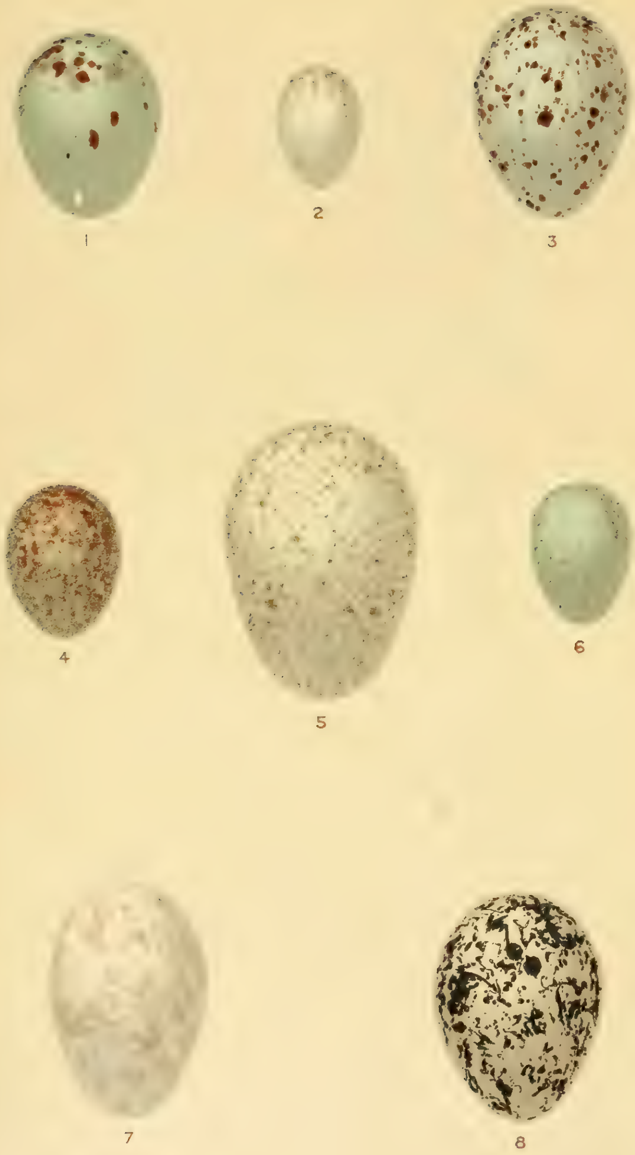
Eggs of Philippine Birds.



Eggs of Philippine Birds.

35. Amaurornis olivacea (Meyen). Philippine Crake.

A. 2 eggs. Siquijor, February 1888. J. B. Steere.

Shape ovate. Ground-colour pale creamy white, with small blotches and spots of reddish brown, purplish lavender, and pale grey scattered thinly over the entire shell. Measurements 40 mm. × 30 mm.

36. Ægialitis peroni (S. Müller). Malay Sand-Plover. (Plate VI. fig. 8.)

A. Clutch of 3 eggs. Cape Engaño, North-east Luzon, 26th May, 1895. J. Whitehead.

Shape short ovate. Ground-colour pale cream; the whole shell with small blotches, streaks, and zigzag pencillings of rich sepia and pale lavender. Measurements 30 mm. × 22 mm.

The three eggs were deposited on the bare sand among sea-drift and only a few yards above high-water mark. The female was shot. On the same day young Plovers nearly ready to fly were captured.

EXPLANATION OF THE PLATES.

Plate V.

Fig. 1. *Hyloterpe philippinensis*, p. 241.
2. *Iole mindorensis*, p. 238.
3. *Rhinomyias albigularis*, p. 237.
4. *Zeocephus rufus*, p. 235.
5, 6. *Æthopyga magnifica*, p. 241.
7. *Megalurus ruficeps*, p. 240.
8, 9. *Turdus nigrorum*, p. 238.
10. *Æthopyga bella*, p. 242.

Plate VI.

Fig. 1. *Calornis panayensis*, p. 244.
2. *Dicæum hæmatostictum*, p. 243
3. *Edoliisoma cærulescens*, p. 235.
4. *Cittocincla luzoniensis*, p. 239.
5. *Corvus pusillus*, p. 234.
6. *Muscicapula samarensis*, p. 237
7. *Caprimulgus griseatus*, p. 245.
8. *Ægialitis peroni*, p. 247.

XXII.—*On a small Collection of Birds made in Socotra by E. N. Bennett, M.A., Fellow of Hertford College, Oxford.*

By H. B. Tristram.

My friend Mr. Bennett has kindly sent me the birds collected by him in Socotra, in which island he travelled, in company with the late Mr. Theodore Bent and Mrs. Bent, from Dec. 1896 to Feb. 1897. Though the collection contains no new species, yet there are several which have not hitherto been reported from that island, and which may help to throw light on the question of lines of migration. As Mr. Bennett disclaims being an ornithologist—though I know that from boyhood he has done good field-work, and that to him I am indebted for interesting information respecting *Ægialitis sanctæ-helenæ*, which he knows on its native mountain-top—he did not make any special notes on the birds, the expedition being for other objects, but simply secured such as he came across.

I have not been able to find any contribution to our knowledge of the avifauna of Socotra subsequent to those of Professor Bayley Balfour after his visit in 1880, and of Dr. Emil Riebeck in the following year, and Mr. Bennett has added no new Passeres to their list. The following are the species obtained by him. The letters B. and R. after each species signify obtained by Balfour and Riebeck respectively.

1. *Zosterops abyssinica* Heugl. B., R.
2. *Saxicola montana* Gld. B.
3. *Amydrus blythi* Scl. B., R.
4. —— *frater* Scl. & Hartl. B., R.
5. *Lanius uncinatus* Scl. & Hartl. B., R.
6. *Passer insularis* Scl. & Hartl. B.
7. *Ardea*, sp.? Skin not preserved. *A. purpurea* was obtained by Riebeck and *A. gularis* by Balfour.
8. *Neophron percnopterus* (L.). B.
9. *Anas boscas* L.
10. *Querquedula crecca* (L.). B.
11. *Chaulelasmus streperus* (L.).
12. *Phœnicopterus roseus* Pall.
13. *Treron waalia* (Gm.). B., R.
14. *Turtur senegalensis* (L.). B., R.
15. *Coturnix communis* Bonn. B.
16. *Strepsilas interpres* (L.).
17. *Tringoides hypoleucus* (L.). B., R.
18. *Totanus glareola* (Gm.). R.
19. —— *canescens* (Gm.). B.
20. *Calidris arenaria* (L.).
21. *Gallinago cœlestis* (Frenz.). B.
22. *Porzana maruetta* (Leach).
23. *Gallinula chloropus* (L.). R.

Mr. Bennett has thus added six species to the Socotran list, viz.: *Anas boscas, Ch. streperus, Ph. roseus, Str. interpres, C. arenaria,* and *P. maruetta,* all of which, with the exception of the Flamingo, can be no more than winter visitants. The list would lead us to infer that the line of southward migration, of which the Red-Sea coasts are undoubtedly the arterial route, trends from the Straits of Babelmandeb westward along the East-African shores, then eastward by the southern coast of Arabia.

When we observe that, of the whole number of 26 species of terrestrial birds represented in the three collections, as many as seven are peculiar, so far as is known, to the island, and that two of them belong to a very remarkable genus, *Rhynchostruthus,* we may fairly infer that rich results will yet follow a more thorough exploration of the whole island. The occurrence of *Saxicola montana,* the only West-Asiatic form in the lists, is evidently not accidental, as it was obtained both by Prof. Balfour and Mr. Bennett.

XXIII.—*On the Avifauna of Franz Josef Land.* By Wm. Eagle Clarke, F.L.S. *With Notes by* Wm. S. Bruce, of the Jackson-Harmsworth Expedition.

On his return from a year's residence in Franz Josef Land, my friend Mr. Bruce kindly placed the birds collected by him in my hands for examination and record. Hence this contribution. I am glad to be able to include Mr. Bruce's useful and interesting Notes on the Land and its Birds. These appear in brackets with Mr. Bruce's initials.

It has been thought desirable to include in this contribution the names of *all* the species of birds which have been observed, or supposed to have been observed, in Franz Josef Land by the few explorers who have visited this, the most northern of archipelagos, and thus to make it a complete record of our present knowledge of its avifauna.

Certain species in the records, the occurrence of which in Franz Josef Land I consider to be extremely doubtful, are particularized by having a query prefixed to them, and they are also not numbered. A few others in the list may, perhaps, require confirmation, but it is undesirable to exclude them, inasmuch as they are not unlikely to occur.

The materials for a complete account of the avifauna of Franz Josef Land are not voluminous. That this should be so is, no doubt, due to the fact that the archipelago remained undiscovered until the year 1873; and it has, for this and other cogent reasons, been comparatively little visited. Indeed, most of the islands of this extensive group have never been explored, and much remains to be accomplished before our knowledge of the birds, and more especially of their distribution, can be regarded as anything like complete.

The following works contain all that we know about the ornithology of the Franz Josef Land Archipelago; and to these frequent allusion will be made in this paper:—

1876. Payer (Julius). New Lands within the Arctic Circle. Narrative of the Discoveries of the Austrian ship 'Tegetthof' in the years 1872–1874. [A translation of 'Die österreich-ungarische Nordpolar Expedition in den Jahren 1872–1874.' Wien, 1876.]

The Austrians under Lieut. Payer explored the eastern portion of the archipelago, from Wilczek Island in 79° 51′ N. lat., by Austria Sound to Cape Fligeley, on the western side of Crown Prince Rudolf Land in 82° 15′ N. lat.

A mere list of birds "found in the region between Novaya Zemlya and Franz Josef Land" is given in vol. ii. pp. 90, 91; and it is unsatisfactorily remarked that "most of these occurred also on the coasts of Franz Josef Land."

1881. Feilden (H. W.). Some Remarks on the Natural History of Franz Josef Land. Trans. Norfolk and Norwich Nat. Soc. iii. pp. 201–211.

This paper contains an account of the birds observed during Mr. Leigh Smith's first voyage in the 'Eira' to Franz Josef Land, in the summer of 1880, during which he explored and made many discoveries on the southern coasts of the archipelago.

1882. Neale (W. H.). Notes on the Natural History of Franz Josef Land as observed in 1881–1882. Proc. Zool. Soc. 1882, pp. 652–656.

During this second voyage the 'Eira' was lost at Northbrook Island,

and Mr. Leigh Smith and his party wintered at Cape Flora, to which neighbourhood the Notes chiefly relate.

1897. Nansen (Fridtjof). Farthest North.

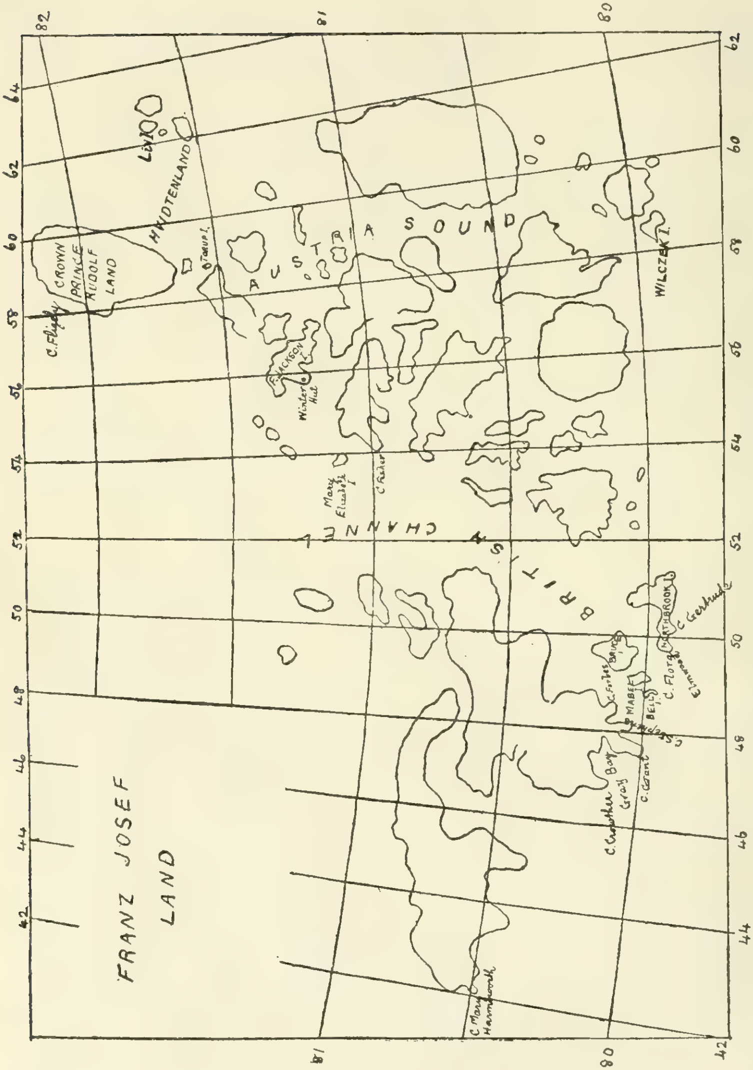
Volume II. contains numerous allusions to the birds seen during the sledge and boat journey from the north-east of the archipelago to Cape Flora.

In addition to the above works there are two papers by Mr. (now Sir) Clements R. Markham in the Proc. Roy. Geogr. Soc. vol. iii. p. 129, v. p. 204, also describing Mr. Leigh Smith's two voyages, and these papers contain some allusions to the birds observed.

Finally we have Mr. Wm. S. Bruce's collection, made during his sojourn at Cape Flora, while an officer of the Jackson-Harmsworth Polar Expedition. The species obtained or observed during this expedition are nineteen in number out of a total of twenty-two for the archipelago: their names are marked with an asterisk in the following List. Five of the birds procured are new to Franz Josef Land.

Southern Franz Josef Land lies some 200 miles to the east of Spitsbergen, and 270 miles north of Novaya Zemlya. At the conclusion of this paper a comparison will be instituted between the bird-life of this region, which is the most northerly—lying, as it does, between 80° and 82° 30′ N. latitude—and that of Novaya Zemlya and Spitsbergen.

[Franz Josef Land is an archipelago of about one hundred islands, mostly of very small size. The greater mass of the land is completely and permanently ice-covered, though probably this covering is of no great thickness. Here and there along the coast are narrow strips of non-glaciated land. Cape Flora is one of these strips, and is more or less typical of the whole series of headlands facing the Barents Sea, as well as of many farther north, although to the N.W. the land becomes lower. The strip of land at Cape Flora varies from about 200 yards to a quarter of a mile in width; the greater portion of this consists of a series of raised beaches from the sea-level up to about 80 feet; from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LIV I.
HVIDTENLAND
CROWN PRINCE RUDOLF LAND
C. Fligely
AUSTRIA SOUND
WILCZEK I.
JACKSON I.
Winter Hut
Mary Elizabeth I.
C. Fisher
BRITISH CHANNEL
NORTHBROOK I.
C. Gertrude
BRUCE I.
MABEL I.
BELL I.
C. Flora
Elmwood
C. Forbes
C. Grant
Gray Bay
C. Crowther
C. Mary Harmsworth
FRANZ JOSEF LAND

W. EAGLE CLARKE DEL.

OUTLINE MAP OF FRANZ JOSEF LAND.

this level up to about 600 feet is a talus, made up of the débris that has crumbled away from the crags above, which consist of several layers of columnar basalt. Above this rises a dome of ice 1200 or 1300 feet high, which sweeps away mainly to the N.W., where it comes down to the sea, forming an ice-face in summer of from about 5 to 15 feet in height above water. The lower more or less flat ground (*i. e.* the 50 to 80 feet raised beaches) is swampy to the eastward, and in one or two places to the westward as well. At Elmwood, midway, there is a freshwater pond; there is also a series of pools at the west end which we knew as the West Ponds. Nearly all this ground is covered with a rich carpet of grass, saxifrages, ranunculuses, poppies, &c. In the wetter places there is a very rich growth of mosses, and only in a very few places, as near Elmwood, is the ground bare and stony. This level ground is cut through deeply in many places by a series of gullies, which are watercourses, running down the talus and across this narrow plain. The talus is green with grasses, poppies, scurvy-grass, &c.; and at its summit, underneath the crags, is very green with an algous and mossy growth that appears to thrive upon the dung of the Looms. The crags themselves are richly covered with a red lichen, which is probably also largely enriched by the droppings of the bird. The Windy Gully rocks and talus lie to the E.N.E. of Cape Flora.

The Snow-Buntings build on the 50 to 80 feet raised beaches in the places described, and probably also on the talus. The Purple Sandpipers and Skuas also nest on this lower ground in the drier places. In the rocks above are Looms, Rotges, Kittiwakes, and Burgomasters.

The birds of Franz Josef Land, though plentiful as individuals, are not so numerous in species as in many other parts of the Arctic Regions. Those that we found nesting there were the Loom, the Rotge, the Black Guillemot (Dovekie), the Burgomaster Gull, the Kittiwake, the Ivory Gull, the Arctic Skua, the Fulmar Petrel, the Eider Duck, the Snow-Bunting, and the Purple Sandpiper.

The Loom nests at Cape Flora, Mabel Island, possibly also on Bell Island, Cape Forbes, and on some of the rocks further westward. At Cape Flora they are to be found in their thousands in the section of basaltic crags that face more or less S.W. at the back of Elmwood, and among them are a few Dovekies higher up. Further to the westward, where the rocks are less precipitous, are the Kittiwakes and a few Burgomaster Gulls, and these mingle a good deal with the Looms, so that one may find a group of Kittiwakes' nests completely surrounded by many nesting Looms. Still farther to the westward were a few Rotges' nests; but the chief part of the Cape Flora rocks for Rotges is that section which faces S.E., *i. e.* looks more or less towards Cape Gertrude, while they literally swarm in the Windy Gully rocks, and among these are numerous Dovekies.

A full description of Cape Mary Harmsworth as the breeding-place of the Ivory Gulls and Eider Ducks is given under their respective headings.—W. S. B.]

[?] LINOTA sp. inc.

Neale, P. Z. S. 1882, p. 654.

Dr. Neale remarks that he is uncertain about this bird. No specimens were obtained, but some old whaling hands among the crew of the 'Eira' called certain birds on the land by this name.

Mr. Bruce informs me that he did not see any Linnet-like bird during his residence in Franz Josef Land. The claim of this *Linota* to be included in the avifauna of Franz Josef Land, resting on the evidence it does, must therefore be regarded as unsatisfactory and requiring confirmation.

Linota holboelli has, however, long been known as an inhabitant of Spitsbergen, and breeds there; but as yet no species of *Linota* has been discovered in Novaya Zemlya. Heuglin (Ibis, 1872, p. 65) believes he saw a "*Linaria*" on Waigats.*

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* [Mr. H. J. Pearson, saw Linnets on Waigats, and obtained adult *Linota linaria*, with nest and eggs, at Habarova (*supra*, p. 192).—EDD.]

1. *Plectrophenax nivalis (Linn.).

Payer, op. cit. ii. p. 91; Feilden, t. c. p. 209; Neale, P. Z. S. 1882, pp. 653, 654; Nansen, op. cit. i. p. 308.

Mr. Bruce's collection contains adults, young, and a nest of the Snow-Bunting, which is quite common as a breeding-bird around Cape Flora.

The Snow-Bunting has come under the notice of all the explorers of Franz Josef Land, where it is widely distributed, for Dr. Nansen observed the bird at Torup Island, in latitude 81° 30′, in August 1895.

[The Snow-Bunting remained plentifully with us in the autumn of 1896 until the 14th of October, and the last was seen on the 30th. Thus this bird was the last species by eight days to remain with us. The sun disappeared about the 27th. The first seen in the spring of 1897 was on the 16th of April, and it was the last of the breeding-birds to arrive. About half-a-dozen nests were taken at Cape Flora, and no doubt many more could have been procured if desired. The nests were placed among stones; but one was on an exposed ledge of a rock, about five feet from the ground and just large enough to hold it; while another was in a deep crevice, and a third under an overhanging piece of turf. We saw the first young birds on the 26th of July, 1896, and the 10th of July, 1897.

The presence of this bird on Bruce Island is rather striking (it probably breeds there), since the island is almost ice-covered, one or two narrow strips near its edge being the only ground free from ice.—W. S. B.]

2. *Calcarius lapponicus (Linn.).

Several fully adult males of the Lapland Bunting were obtained by Mr. Jackson at Cape Flora on the 28th of May, 1896. These specimens were exhibited at the meeting of the British Ornithologists' Club on the 17th of November, 1897 (Bull. Brit. Orn. Club, no. xlviii. p. xiv).

This species was an unlooked-for addition to the fauna of Franz Josef Land; for the archipelago lies not only far to the north of its previously ascertained distribution, but its physical conditions are of an order not likely to prove attractive to the bird, and to induce it to become a summer visitor. Indeed, we can only regard Mr. Jackson's specimens as mere stragglers from Novaya Zemlya, where the species is uncommon during the nesting-season. It is quite unknown to Spitsbergen.

3. *OTOCORYS ALPESTRIS (Linn.).

A female Shore-Lark, in immature plumage, in Mr. Bruce's collection was shot by Mr. Armitage on the 9th of June, 1897, near Elmwood, the station at Cape Flora.

This species is new to the avifauna of Franz Josef Land, which is, moreover, the most northerly region in which the bird has yet been observed. It is quite unknown in Spitsbergen, but is not an uncommon summer visitor to Novaya Zemlya. Whether this bird is more than a straggler to Franz Josef Land remains to be ascertained, but the probability is that it is a mere casual in that inhospitable region.

4. *NYCTEA SCANDIACA (Linn.).

Strix nivea Payer, op. cit. ii. p. 91.

Nyctea scandiaca Neale, P. Z. S. 1882, pp. 653, 654.

The collection contains an adult female Snowy Owl, which was caught by Mr. Wilton near Cape Flora on the 26th of August, 1896.

This species appears to be not uncommon about Cape Flora, but whether it is a straggler to Franz Josef Land—where Lemmings and Ptarmigan appear to be unknown—or a summer visitor, is at present a matter of conjecture: Mr. Bruce inclines to the latter belief.

Dr. Neale remarks that it was the first bird to arrive at Cape Flora in the spring of 1882, a Snowy Owl having appeared there on the 8th of February, and again on the 16th and 19th of that month.

[The Owl captured by Mr. Wilton must have been ailing, for, as a rule, one cannot get within rifle-shot of these birds. They were frequently seen at Cape Flora in the summer and autumn of 1896, and they preyed upon young birds, chiefly the young Looms. The first for 1897 was seen by Mr. Heyward on the 29th of May, and Mr. Wilton saw one on the following day.

The nest of this Owl was not found, and it must remain uncertain whether this bird breeds in Franz Josef Land. Very likely it does, but I doubt whether it bred at Cape Flora in 1897.—W. S. B.]

5. Falco sp. inc.

Falco candicans Neale, P. Z. S. 1882, pp. 653, 654.

Dr. Neale refers to the Greenland Falcon the "Falcon Hawk" seen on the 20th of April, 1882, at or near Cape Flora. No species of diurnal bird of prey came under the notice of Mr. Bruce and his companions during their sojourn in the archipelago, nor, indeed, has any been recorded by other explorers of Franz Josef Land.

The specific identity of the Falcon that from time to time visits Spitsbergen and Novaya Zemlya† has not been satisfactorily determined, but the whiteness of the specimens generally alluded to makes it probable that the Greenland bird is the one that wanders most frequently to these Arctic islands, including, it appears, Franz Josef Land.

6. *Bernicla brenta (Pallas).

Neale, P. Z. S. 1882, pp. 653, 654; ? Feilden, t. c. p. 209; Markham, Proc. Roy. Geogr. Soc. v. pp. 210, 216; ? Nansen, op. cit. ii. pp. 335, 435, 436.

The Brent appears to be the only species of Goose found in the region, and is no doubt the species alluded to under the name of 'Goose' or 'Geese' in the writings of Colonel Feilden and Dr. Nansen. The former records that traces of a Goose were observed by the members of Mr. Leigh Smith's first 'Eira' Expedition; and Dr. Neale says that during the second expedition made in that vessel Brent Geese along with Rain-Geese [Red-throated Divers] were seen and shot on the cliffs 700 feet above sea-level. He also states that a great many Brents came to the lowland near the pond at Cape Flora, but that no signs of a nest could be found anywhere.

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† Heuglin, in 'The Ibis,' 1872, p. 61, considered the bird observed by him in Novaya Zemlya to be *F. gyrfalco*; but in his 'Reisen nach dem Nordpolarmeer' (1874), iii. p. 83, he treats of the Novaya Zemlya records under "*Falco* sp.?"

Dr. Nansen found traces of Geese, and a Goose's egg-shell, on Mary Elizabeth Island on the 1st of June, 1896. He also saw two Geese at Cape Fisher two days afterwards. All these localities are in the southern portion of the archipelago.

These birds emigrated from Cape Flora about the 22nd of September, 1881. Sir Clements Markham, quoting from Mr. Leigh Smith's Journal, mentions that these Geese began to arrive at Cape Flora in June, 1882, but that a Goose or Duck was seen on the 12th of March of that year.

[Mr. Wilton saw the first Brent Geese on the 10th of June, 1897, and shot one of the two seen. I also saw a pair on the same day. Brent Geese were seen again on the 13th and 14th. Towards the end of July I saw four or five, and Mr Wilton saw others. The West Ponds were their chief resort.—W. S. B.]

7. *SOMATERIA MOLLISSIMA (Linn.).

Payer, op. cit. ii. p. 91 ; Neale, P. Z. S. 1882, pp. 653, 654 ; Nansen, op. cit. ii. p. 438.

There are two chicks, a few days old, in the collection. These Mr. Bruce obtained at Cape Mary Harmsworth, on the 7th of August, 1897.

The Eider Duck does not seem to be widely distributed in Franz Josef Land, though it appears to be not uncommon in the south, to which area all our information refers. Dr. Nansen only once mentions seeing it—namely, near Cape Fisher, where a flock was observed on the 4th of June, 1896. Dr. Neale merely includes it in his list, and tells us that it departed from Cape Flora in the autumn of 1881, on or about the 22nd of September.

[We saw the Eider Duck on only two occasions near Cape Flora—namely, on the 28th of August, 1896, when a single bird was seen; and on the 15th of July, 1897, Mr. Wilton saw one male and one female.

At Cape Mary Harmsworth, on August 7th, 1897, I found an Eider Duck's nest with two young birds and an egg just on the point of hatching. Later in the day Mr. Wilton and I saw many ducks and ducklings round the north end of the tongue of land. We saw five broods with their mothers, and there were many others swimming among the loose ice. Altogether there must have been several hundreds. This was really the only locality for the species found by the expedition in Franz Josef Land, for only two had been seen and secured at Cape Gertrude before my arrival.—W. S. B.]

8. *STREPSILAS INTERPRES (Linn.).

Dr. Koettlitz, of the Jackson-Harmsworth Expedition, informs us that on the 27th of May, 1896, he saw a Turnstone at Cape Flora—the only one that he observed in Franz Josef Land. This bird is an addition to the avifauna of the archipelago, to which it is probably a mere straggler, for it is a scarce bird in Novaya Zemlya.

[?] GALLINAGO sp. inc.

Neale, P. Z. S. 1882, p. 654.

I have little doubt that the supposed Snipe seen by the old whaling hands of Mr. Leigh Smith's second expedition to Franz Josef Land, as mentioned by Dr. Neale, was really the Purple Sandpiper—a bird which I know from experience is called by whalers a "Snipe."

It is almost needless to remark that no species of *Gallinago* is at all likely to occur in Franz Josef Land, or elsewhere in the high north; and a Snipe has never been seen either on Spitsbergen or Novaya Zemlya.

9. *TRINGA FUSCICOLLIS Vieill.

(Bull. B. O. C. no. li. p. xxxvi.)

Mr. Bruce's collection contains a skin of a female Bonaparte's Sandpiper, which was shot on the margin of the pond near the beach at Cape Flora, on the 28th of June, 1897, by Mr. Wilton. The bird was alone, and no other example was observed.

This bird is not only a new and remarkable addition to the ornis of Franz Josef Land, but it is the first authentic example of this American species that has been obtained in Europe elsewhere than the British Isles, for the Icelandic record is not to be regarded as satisfactory.

The occurrence of this Sandpiper in Franz Josef Land, so far away from its accustomed haunts, is very remarkable; but almost equally remarkable is the fact that it should find its way there in the breeding-season. It has only visited the British shores during the migratory period in the autumn, and its occurrence in Franz Josef Land in summer admits of no satisfactory explanation.

[?] TRINGA CANUTUS Linn.

Payer, op. cit. ii. p. 91; Feilden, t. c. p. 210.

Lieut. Payer mentions the "Iceland Knot" as one of the birds observed by the Austro-Hungarian Expedition, but whether in Barents Sea or on the shores of Franz Josef Land is uncertain. Colonel Feilden, however, includes the Knot among the birds observed during Mr. Leigh Smith's first 'Eira' Expedition, opining that the "Brown Snipe," reported to him as one of the birds seen, was probably *Tringa canutus.* To this conclusion it is difficult, if not impossible, to assent, for reasons to be stated. I have little doubt that the bird observed by the explorers was the Purple Sandpiper—one of the commonest and most generally distributed species to be found on the shores of the Polar Sea, though one that had not, until now, been identified in this region.

On the other hand, the Knot is quite unknown, even as a bird of passage, nay even as a wanderer, to Spitsbergen, Novaya Zemlya, or other Arctic isles lying to the north of the Continent of Europe. Thus it is highly improbable that the Knot should find its way to Franz Josef Land, and there can be no hesitation in regarding it as one of those species the presence of which in the archipelago requires confirmation.

10. *TRINGA STRIATA Linn.

The Purple Sandpiper is represented in the collection by two young birds, as well as two eggs, all of which were procured in the immediate neighbourhood of Elmwood (Cape Flora), where, Mr. Bruce informs me, this bird was quite common as a nesting species in the summer of 1897.

It is somewhat surprising that this bird, which is one of the commonest, most widely-distributed, and well-known species inhabiting the Northern Regions, should have hitherto remained unnoticed in Franz Josef Land, to the fauna of which it is now added for the first time.

I am strongly of opinion, however, that this bird is the "Iceland Knot" of Payer (op. cit. ii. p. 91); the "Brown Snipe," or Knot, of the first 'Eira' Expedition (Feilden, t. c. p. 210); and the "*Gallinago* sp. inc." of Dr. Neale's account (P. Z. S. 1882, p. 654) of the birds of the 2nd 'Eira' Expedition. It is not necessary to say more here in this connection, for the subject has already been discussed under *Gallinago* sp. inc. and *Tringa canutus*.

The chicks of the Purple Sandpiper obtained by Mr. Bruce were captured on the 4th and the 27th of July respectively. The first caught of these little birds appears to be only a day or two old; while the last obtained, though a mere chick, is clad partly in down and partly in sprouting feathers, and already shows the purple gloss on its dorsal plumage from which this species takes its popular name.

[I saw a number of Purple Sandpipers during July, August, and September 1896; and Mr. Wilton saw the first for the year on the 29th of May. On the 5th of June one came on the snow right up to the window-pane at Elmwood. Late in June a nest with eggs was found, and in July I captured two young ones. The first caught was with its parent, which tried to lure me away; the older bird was one of four, also accompanied by the mother.—W. S. B.]

11. CALIDRIS ARENARIA (Linn.).

Neale, P. Z. S. 1882, pp. 653-654.

Dr. Neale includes this species in his list of birds observed during Mr. Leigh Smith's second expedition; and he tells us that on the lowlands [at Cape Flora] the Snow-Bunting and the Sanderling were seen, but no nests were found.

The Sanderling does not appear to have come under the notice of the other explorers who have visited Franz Josef Land, and its occurrence there is doubtful. It has been recorded for Waigats by Heuglin ('Reisen nach dem Nordpolarmeer,' dritter Theil, S. 118); but there is no record of its occurrence in Novaya Zemlya. It has occurred in Spitsbergen, but does not breed there.

12. *Sterna macrura Naum.

Payer, op. cit. ii. p. 91; Neale, P. Z. S. 1882, p. 654; Nansen, op. cit. ii. p. 295.

Mr. Bruce has adults, male and female, of the Arctic Tern, shot at Cape Flora, out of a party of four which appeared there on the 24th of June, 1897.

Although this species is undoubtedly a summer visitor to Franz Josef Land, yet there appears to be no information regarding its breeding; nor do we know much concerning it as a bird of the archipelago. Dr. Neale merely includes the Arctic Tern in his list of birds observed in the south during Mr. Leigh Smith's second visit, but without remark. Dr. Nansen only once mentions this bird in his diary, namely on the 8th of August, 1895, when two "Terns" were seen off the Isles of Hvidtenland. The Arctic Tern in all probability nests in Franz Josef Land, but it has not yet been found breeding by any of the explorers of the archipelago.

[On the 6th of August, 1896, I saw a pair of Terns at the end of Windy Gully, Cape Flora; and on the 24th of June, 1897, I saw two pairs of Arctic Terns at the west end of Cape Flora. Mr. Jackson shot a pair of these later in the day, a male and a female. These were the only occasions on which I saw Terns in Franz Josef Land. I saw a pair when off the east of Spitsbergen.—W. S. B.]

13. Rhodostethia rosea Macgil.

Payer, op. cit. i. p. 285, ii. p. 91; Nansen, op. cit. ii. pp. 270, 272, 282, 283, 295, 297, 298.

When the Austrian explorers in the 'Tegetthof' were drifting in the ice south of Franz Josef Land in the latter part of the summer of 1873, they were fortunate enough to obtain a specimen of the rare Ross's Gull. This fact led ornithologists to surmise that in these new Arctic lands was to be found, perhaps, one of the long-sought breeding-haunts of this interesting bird.

The experience of Dr. Nansen and his companion Lieut. Johansen in North-eastern Franz Josef Land during the summer of 1895 practically demonstrates that this Gull breeds in considerable numbers in that portion of the archipelago. During their long and arduous sledge-journey over the polar ice they first observed this bird when approaching Franz Josef Land from the north-east. The first example, an adult, was seen on the 14th of July. After that date one or two were observed almost daily; and on the 31st four came under notice. On the 1st of August Dr. Nansen writes in his diary (p. 283): "It would seem as if the Ross's Gulls kept to the land here; we see them almost daily." When nearing the small group of islands to which the name of Hvidtenland has been given, numbers of these birds were seen, and Dr. Nansen remarks (p. 297): "Yesterday [the 9th of August] we saw a number of them; they are quite as common here as any other species of Gull." On the following day, when off Liv Island, one of the group, he says (p. 298): "We could see a strip of bare land along the shore on the north-west side. Was it there, perhaps, the Ross's Gulls congregated, and had their breeding-grounds?"

[On the 5th of July, 1897, Mr. Jackson declared he had seen Ross's Rosy Gull. He noted the bird flying high up along with some Kittiwakes, and said that it flew into the cliff, at the back of Elmwood, along with them. My opinion is that it was probably a Kittiwake, and I think this bird should *not* be included in the list of birds seen or captured by the Jackson-Harmsworth Expedition. Only one of us saw the bird besides Mr. Jackson, and that individual had a good pair of binoculars, which he directed upon the bird. He neither noticed any rosy colour nor the wedge-shaped tail, both of which are distinctive characters.—W. S. B.]

[?] LARUS ARGENTATUS Gmel.

Nansen, op. cit. ii. pp. 206, 230, 235.

Dr. Nansen, when approaching Franz Josef Land over the ice in June 1895, alludes on three occasions to seeing Gulls which were "probably Herring-Gulls (*Larus argentatus*)."

The Doctor's surmise was undoubtedly an erroneous one; for the probability of seeing this species beyond the 82nd parallel of N. latitude is not at all likely. The birds seen were probably Glaucous Gulls.

The Herring-Gull is quite unknown to both Spitsbergen and to Novaya Zemlya, and does not occur further north than the Arctic coast of the European Continent.

14. *Larus glaucus Fabricius.

Payer, op. cit. ii. p. 90; Feilden, t. c. p. 209; Neale, P. Z. S. 1882, p. 652–653; Nansen, op. cit. ii. pp. 326, 331, 349, 414.

The Glaucous Gull has been observed by all those who have visited Franz Josef Land, where it seems to be widely distributed.

Dr. Neale found it breeding at Bell Island and at Cape Flora.

Dr. Nansen observed it at Frederick Jackson Island in the spring of 1896; and probably the birds seen by him in the north-eastern portion of the archipelago, and regarded as Herring-Gulls, were of this species. He has recently informed us that the surprising statement (op. cit. ii. p. 308) that on the 4th of August, 1895, "on the north side of the island [Torup Island] we found a breeding-place of numbers of Black-backed Gulls" was due to an error of his translator. The birds were Glaucous Gulls.

Dr. Neale tells us that these Gulls remained at Cape Flora in the autumn of 1881 until the end of October. Sir Clements Markham (Proc. Roy. Geogr. Soc. v. p. 216), quoting from Mr. Leigh Smith's diary, notes their return on the 5th of March, 1882.

15. *Pagophila eburnea (Phipps).

Payer, op. cit. ii. p. 90; Feilden, t. c. p. 210; Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. pp. 284, 295, 304, 326, 414.

Three chicks and an addled egg of the Ivory Gull are in

Mr. Bruce's collection. These specimens were, strange to relate, obtained on the low-lying ground at Cape Mary Harmsworth on the 7th of August, 1897. Cliffs are usually selected by this bird as nesting-sites. One of the chicks obtained is only a few days old, and the other two, though older, are still in the downy stage. The feet and bills of these young birds strike one as being much coarser and larger than those of other Gulls of the same age.

Dr. Neale mentions Cape Flora as a nesting-place, but Mr. Bruce tells me that, though seen constantly in some numbers, the Ivory Gull does not breed there; the only nesting-station known to him being at Cape Mary Harmsworth. Other nesting-places mentioned by Dr. Neale are at Cape Stephen, Bell Island, and Gray Bay; and according to Mr. Leigh Smith it breeds at May Island, placing its nest on the top of a low basaltic cliff (Proc. Roy. Geogr. Soc. iii. p. 131).

Dr. Nansen observed this Gull amid the polar ice far to the north-east of Franz Josef Land on the 2nd of June, 1895, when, he tells us, he shot two for food. These birds were afterwards not unfrequently seen by him when he was skirting the land; and in August they were found along with other birds at the Isles of Hvidtenland.

Dr. Neale records that in the autumn of 1881 the Ivory Gulls departed from Cape Flora at the end of October, and arrived there the following spring on the 20th of April. Dr. Nansen observed them for the first time in 1896 as early as the 12th of March, at his winter-quarters on Frederick Jackson Island.

[This bird was quite abundant in the autumn of 1896 at Cape Flora, and the last entry in my diary for this species was on the 3rd of October, when about twenty Ivory Gulls and several young ones were observed. In the spring of 1897 this bird was first seen on the 10th of April, when twenty at least were observed in the evening. I do not think that this bird breeds at Cape Flora, and my only experience with the bird as a breeding species is contained in the following account:—

August 7th. To-day we landed at Cape Mary Harmsworth, and the first thing we noted was an immense number of Ivory Gulls, and from their demonstrations and shriekings it soon became evident that they were nesting. As we travelled across the low-lying spit we found this was so. Here there are five or six square miles, or more, of fairly level ground, more or less terraced, being evidently a series of raised beaches. This, if not the largest, is one of the largest areas of bare ground in Franz Josef Land. Beyond a few lichens and occasional patches of moss there is very little vegetation, only two flowering plants being found—a saxifrage and a grass, and these very sparingly indeed. There is very little actual soil, and the surface is rough and rugged with large stones. Scattered all over it are numerous freshwater ponds, the largest of them perhaps two hundred yards across. The first signs of the Ivory Gulls' nests were patches of old moss every here and there, which at first we could not make out. As we advanced we saw more of these patches, and these seemed more compact. On approaching closer to these the birds made still more vehement demonstrations, swooping down upon us, and giving vent to their feelings by uttering a perfectly deafening shriek close to our heads. Once in the midst of their nests—for these patches of moss were their nests—we had many hundreds of birds around us, first one swooping down to within a foot of our heads, and immediately after another. In some cases they actually touched us, and in one instance knocked the hat off a man's head. Most of the nests were empty, owing to the late date; but here and there was a single egg, and in two nests I found two eggs. Going on through this gullery we found that near certain nests, which were apparently empty, the birds made even more violent demonstrations than before, and in looking carefully about we descried a young Ivory Gull in its greyish-white downy plumage, and hardly visible against the stones, which were of a very similar colour. Even the older ones, which were more whitish, were difficult to see among the stones. These young birds would sit crouched in between two or three large stones, and one might at first sight take them for stones also. On picking up a young bird the parents became quite distracted and threatened us more vehemently than ever. By-and-by we passed out of this gullery, but further along we could see others, each with many hundreds of these birds, and we advanced towards them. The gullery we left gradually became quiet; but the birds in the one which we were approaching were beginning to demonstrate in the same way as those at the last. The cries became louder and louder, and in a few minutes we were again in the midst of the deafening shrieks of a host of terrified yet defiant birds. Again they swooped down upon us, and it seemed quite likely that at any moment they might dash into our faces. So we passed on from gullery to gullery among many thousands of these birds. It was a magnificent sight; the sun was shining brightly in a blue sky, the air was clear, and these handsome birds in their pure white plumage added brilliancy to the scene. Each nest is, as I have said, composed of a pile of moss, in shape a truncated cone, and may be from 6 to 9 inches in height and from 18 inches to 2 feet in diameter. There is no hollow on the top of this more or less level pile, upon which the egg is deposited or the young bird sits. I noticed many dead young birds, some quite recently deceased, for they were still warm, while others had been dead for some time; in nearly every case their crania had been indented. Eight young birds were taken on board alive; seven of these reached the Thames on September 3rd, 1897, but next day six of these were dead, and the remaining one found its way to the Zoological Society's Gardens at Regent's Park.—W. S. B.]

16. *RISSA TRIDACTYLA (Linn.).

Payer, op. cit. ii. p. 90; Neale, P. Z. S. 1882, pp. 653, 654; Nansen, op. cit. ii. pp. 295, 350, 438.

Mr. Bruce's representatives of the Kittiwake consist of two chicks taken on the 20th of July, 1897, and a half-grown bird taken a week or two later in August: all from nests at Cape Flora.

This bird is at least widely, if not generally, distributed in Franz Josef Land. Dr. Neale records it as breeding in numbers in the south at Cape Flora in the summer of 1882; and Dr. Nansen observed it in the north-east, at the Isles of Hvidtenland, on the 8th of August, 1895. According to Dr. Neale, the Kittiwakes departed from Cape Flora, in the autumn of 1881, about the 22nd of September, and returned the following spring on the 6th of May.

[I noted the last Kittiwakes seen in the autumn of 1896 for the 5th of October, when they came under the notice of Mr. Wilton. The first was observed in the spring of 1897 on the 14th of April, and several were seen by Dr. Koettlitz on the following day. On the 24th they were observed returning from the westward. On the 25th there were plenty of them on the cliffs at Cape Flora. On the 19th of May the whole group of Kittiwakes—some 500 or 600—were sitting on the floes in the West Bay. I went to the top of the talus on the 1st of July with Mr. Jackson in search of eggs, and got, among others, fifty eggs of the Kittiwake and Loom. The Kittiwakes were nesting among the Looms on the ledges, and their roughly-made nests of grasses and mosses contained two eggs each. The eggs proved to be considerably incubated, as did also those of the Loom obtained at the same time.

The Kittiwakes are here the victims of the Skuas and Snowy Owls. The latter especially attack the young birds, while the Skuas rob the old ones of their food.

On the 16th of August the young Kittiwakes were not old enough to fly, and the crew of the 'Windward' captured several on the rocks. On the 28th of August, 1896, the young Kittiwakes were already leaving their nests. I labelled several of these, in case they should be captured elsewhere.—W. S. B.]

17. *Stercorarius crepidatus (Gmel.).

Long-tailed Robber-Gull, Payer, op. cit. ii. p. 90.
Lestris Feilden, t. c. p. 209.
Lestris sp. incog. Neale, P. Z. S. 1882, p. 654.

Stercorarius crepidatus and 'Skuas,' Nansen, op. cit. ii. pp. 326, 350, 414.

There is, perhaps, some little doubt as to whether all the Skuas that have been observed by the various explorers of Franz Josef Land should be assigned to one species, namely, the Arctic or Richardson's Skua. Mr. Bruce considers that the Skua which nests at Cape Flora belongs to this species; and Dr. Nansen tells us that the species seen by him was *Stercorarius crepidatus*. The other writers named in the bibliography given above were in doubt as to the identity of the species which came under their notice.

As yet we know little about this Skua and its distribution in the archipelago. At Cape Flora, in the south, it nests in some numbers on the lowlands near the shore. In the north-east Dr. Nansen observed this bird in the summer of 1895, and in the autumn at Frederick Jackson Island, where it was busily engaged chasing the Kittiwakes. He also saw it at the same island in the spring of 1896.

[On the 15th of April, 1897, Mr. Wilton saw the first Skua. It is not uninteresting to note that it was only on the day before and on this day that the Kittiwakes arrived.

Several pairs of Arctic Skuas were nesting about Cape Flora. We found the first nest, containing eggs, on the 27th of June, and on the 3rd of July another was found with eggs. The birds played antics when their nests were approached, pretending to be maimed in some way and trying to lure one after them. The Skuas also swooped down upon our dogs when they were near the nests.

I saw the Pomatorhine Skua (*Stercorarius pomatorhinus*) on the voyage out and home, but not actually on Franz Josef Land, though we shot it before we were out of the ice.—W. S. B.]

18. *Uria mandti Licht.

Uria mandti and *Grylle columba* Payer, op. cit. ii. p. 91.

Uria grylle Feilden, t. c. p. 209; Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. pp. 199, 410.

Mr. Bruce brought back with him a number of specimens of this Black Guillemot, or Dovekie, in both adult and first plumages. This bird bred, Mr. Bruce tells me, in some numbers at Cape Flora, along with the still more numerous Little Auk.

According to Dr. Neale, a considerable number of Dovekies breed at the head of Gray Bay, and a good number at Cape Stephen, at Bell Island, and at Cape Flora. The bird came under Dr. Nansen's notice at the end of May 1895 on the ice far to the north-east of Franz Josef Land; but he does not again allude to it until the spring of 1896, when he (p. 410) mentions its arrival on the 10th of March, and alludes to its movements from the land to the sea at certain times of the day in company with the Little Auk. Dr. Neale states that the Black Guillemot departed from Cape Flora during the first week of September 1881, and returned to its old haunts on the 18th of February, 1882.

[On the 22nd of October several Dovekies were seen, and two of them shot by Mr. Armitage; these were the last of their kind seen in the autumn of 1896. On the 4th of March, 1897, Mr. Wilton saw the first Dovekie of the season. On the 17th the bird was seen in numbers at the Windy Gully Rocks.

The note of the Dovekie while flying is extremely delicate and beautiful—a kind of soft chirping. It is very distinctive, and one could easily tell whether the birds were about without seeing them.

The Windy Gully Rocks form a breeding-place of the Dovekies, and there they are dispersed among their more numerous friends, the Rotges. This species was much less abundant than the Loom.—W. S. B.]

19. *URIA BRUENNICHI (E. Sabine).

Uria arra Payer, op. cit. ii. p. 91.

Alca arra Feilden, t. c. p. 209.

Uria bruennichi Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. p. 244.

In the collection are three adults in summer plumage, two obtained on the 13th of April, 1896, and one on the

27th of April, 1897; three young in down taken on the 11th and 24th of August, 1894; and a chick on the 27th of July, 1897: all from Cape Flora.

Though common enough in the south, there is no information regarding the bird elsewhere in Franz Josef Land.

Dr. Neale mentions that there are large "loomeries" at Cape Crowther, Cape Grant, Cape Stephen, Bell Island, and Cape Flora, and that a few breed at Cape Forbes. He found eggs, laid on the bare rock, on the 26th of June, 1882. From the "loomery" at Cape Flora 1660 of these Guillemots were shot in September 1881 by Mr. Leigh Smith's party for winter stores. Dr. Neale notes that it became very scarce at Cape Flora after the 10th of September, 1881. It arrived there, according to the same authority, on the 9th of March in the spring of 1882.

Dr. Nansen only once mentions Brünnich's Guillemot, namely on the 16th of June, 1895, when he shot a single bird some way to the north-east of the archipelago in lat. 82° 19′ N.

[The Looms began to come down from the cliffs at Cape Flora on the 13th of August, 1896, and the descent lasted until August 24th. Several old birds came down with one young one; indeed I have seen as many as five accompanying it. It is a bold flight to take, for the cliffs where they are cradled are from 600 to 800 feet above sea-level, and these young birds are not able to sustain their own weight during so long an essay, but gradually come lower and lower until they strike with a heavy thud on the floe or land. Some quickly recover themselves and hurry away as fast as they can to the open water, while others are harried by the Burgomasters (*Larus glaucus*); and those that are killed afford food for the bears. Many of the young seem to perish, but perhaps this is due to the large number of old ones that had recently been shot for food, namely over 1400 for winter stores.

On the 25th of August I captured, labelled, and set free nineteen young Looms, but have not yet heard that any of them have been captured. The temperature of a young Loom taken on the 14th of August, 1896, was found to be 107°·1 F. Of 23 Looms taken during August seven had fish-bones in their stomachs, while sixteen had nothing.

In 1897 the first Loom was seen on the 20th of March. On the 7th of May, during an excursion to Mabel Island, many Looms and Rotges were seen on the cliffs. There were many Looms making a great noise on the rocks at Cape Flora on the same date, and on the 16th they were in full force on their breeding-ledges in the morning, but in the afternoon there were few, and at night the clouds were down to 300 feet, and all appeared to have left. This visiting and leaving the cliffs continued throughout May and part of June. On the 1st of July I went up the talus (600 feet) and secured about fifty eggs. Some of the eggs were resting in very wet places, but this the bird did not seem to mind so long as it could get a place on a ledge of these densely crowded rocks. There were thousands upon thousands of Looms nesting on cliffs at the back of Elmwood, our station at Cape Flora, the whole place being alive with them.—W. S. B.]

20. *Mergulus alle (Linn.).

Payer, op. cit. ii. p. 91; Feilden, t. c. p. 109; Neale, P. Z. S. 1882, pp. 652, 653; Nansen, op. cit. ii. pp. 308, 312, 320, 351, 403, 404, 410, 414, 438.

The collection contains four Little Auks from Cape Flora three of which were obtained on the 11th of April, 1895, and one on the 27th of April, 1897.

This is one of the commonest birds inhabiting Franz Josef Land, where it is widely distributed. Dr. Neale found it breeding in great numbers in the south on the lofty cliffs at Gray Bay, also many at Cape Forbes; and Sir Clements Markham (Proc. Roy. Geogr. Soc. iii. p. 133) mentions a rookery at Bruce Island.

Dr. Nansen observed it to the north-east of Franz Josef Land, in lat. 82° N., on the 10th of June, 1895, and on the 26th of June many were seen in the same latitude. At the Isles of Hvidtenland, on the 8th of August, a number of Little Auks were noted; and at Torup Island, on the 17th, there were "myriads." On the 10th of March, 1896, at his winter-quarters on Frederick Jackson Island, Dr. Nansen mentions that "millions" were seen flying up the sound at 6 A.M., and "when we went out at 2 in the afternoon there was an unceasing passage of flock after flock out to sea, and this continued until late in the afternoon." It was also observed (p. 410) that this species and the Black Guillemot invariably set forth from the land at certain times of the day towards the open sea, returning in broken lines to their nest-rocks again. At the basaltic cliffs of Cape Fisher, on the 3rd of June, 1896, he found these birds breeding in swarms.

Dr. Neale tells us that the Little Auk departed from Cape Flora in the autumn of 1881 during the first week of September; and was first observed there in the spring of 1882 on the 2nd of March. It arrived at Frederick Jackson Island in 1896 on the 25th of February, as related by Dr. Nansen.

[The Rotges appear to have left Cape Flora about the 14th of September in the autumn of 1896; and they returned on the 9th of March, 1897, for on that day I noticed their brilliantly red droppings in the snow: this was the first sign that the Rotges had returned, but we did not see them on that day. On the 17th of March they were in plenty at the Gully Rocks, and, as far as could be seen, they were all in full summer plumage. There were also many of these birds observed on Windward and Mabel Islands during the month. Like the Looms, the Rotges continually occupied and deserted their breeding-cliffs during April, May, and early June. After the 10th of June the Little Auks were seen on the rocks every day during our stay. They bred in the cliffs, at both east and west ends, at Cape Flora in great numbers, though most plentifully in the Gully Rocks. Dr. Koettlitz and I saw a good many in the cliffs at Cape Forbes on the 24th of May.—W. S. B.]

[?] FRATERCULA ARCTICA (Linn.).

Lieut. Payer (op. cit. ii. p. 91) mentions the "Lumme

(*Mormon arcticus*)" as one of the birds "found in the region between Novaya Zemlya and Franz Josef Land . . . . most of these occurred also on the coasts of Franz Josef Land."

It is not probable that this bird was one of the species observed on the coasts of this northern archipelago. It has not come under the notice of any of the explorers who have since visited Franz Josef Land; and it is, moreover, a somewhat uncommon species on the west coast of Novaya Zemlya, which seems to be the extreme limit of the Puffin's eastern distribution in the European Polar area. It is, however, a fairly common species in Spitsbergen.

21. *Colymbus septentrionalis Linn.

Neale, P. Z. S. 1882, pp. 653, 654.

The Red-throated Diver has only come under the notice of Dr. Neale, among all the explorers of Franz Josef Land. Rain-Geese (*Colymbus septentrionalis*), he tells us, were seen and shot on the cliffs 700 feet above sea-level, presumably at Cape Flora, but no nests were seen.

It is somewhat strange that such a conspicuous, well-known, and characteristic circumpolar species should have escaped the notice of the other visitors to the same place, and to other parts of the archipelago.

Dr. Koettlitz informs us that three adults and a young bird were seen and shot at Bell and Mabel Islands, on the 11th of August, 1895; and that they were the only Red-throated Divers seen by the Jackson-Harmsworth Expedition in Franz Josef Land.

22. *Fulmarus glacialis (Linn.).

Procellaria glacialis Payer, op. cit. ii. p. 91; Neale, P. Z. S. 1888, p. 653; Nansen, op. cit. ii. pp. 244, 295, 349, 414, 437.

The Fulmar Petrel seems to be widely distributed and probably breeds locally over a wide area in the region.

Dr. Nansen observed it on the 16th of June, 1895, when approaching Franz Josef Land, over the ice, from the north-east; and again early in August at the Isles of

Hvidtenland, and later still on Frederick Jackson Island in September. On the 3rd of June, 1896, he found it breeding at Cape Fisher (p. 437).

Dr. Neale only alludes to the "Molly" as a migratory bird, which remained at Cape Flora so late as the 28th of October, 1881, and returned in the following spring on the 24th of April; and tells us nothing further concerning it.

[Mr. Wilton saw the last Molly on the 6th of October, 1896. The first seen in 1897 was on the 7th of April. On May 5th we found these birds breeding at the east end of Mabel Island in abundance, on the basaltic crags. They were then making a peculiar Duck-like sound, quacking in quick succession. Mollies were also seen at Cape Forbes by Dr. Koettlitz and myself, and probably breed there.—W. S. B.]

The subjoined tabulation affords, in a condensed form, a comparison between the ornis of Spitsbergen and Novaya Zemlya and that of Franz Josef Land:—

Orders.	Spitsbergen.	Novaya Zemlya.	Franz Josef Land.
	Species.	Species.	Species.
Passeres........	2	6	3
Striges	1	1	1
Accipitres......	1	2	1
Anseres........	6	10	2
Gallinæ........	1	None	None
Limicolæ	5	8	4
Gaviæ	7	8	6
Pygopodes	5	7	4
Tubinares	1	1	1
Totals	29	43	22

It only remains to remark that, of the twenty-two species which form the avifauna of Franz Josef Land, only ten have been found breeding (though several more—probably five—undoubtedly nest there); and that several of the birds in the grand total are mere stragglers. Six species, the occurrence of which is extremely doubtful, have been recorded for the archipelago; these have been excluded from our calculations for reasons already stated under the particular species.

Just as we were going to press, we received from Dr. Koettlitz, the geologist to the Jackson-Harmsworth Expedition, a communication containing much valuable information. Where absolutely necessary, the facts have been incorporated under the respective species to which they refer. But the useful data on the arrival and departure of the various birds which came under the Doctor's notice, prior to Mr. Bruce's advent in Franz Josef Land, are given below. We desire to express our acknowledgments to Dr. Koettlitz for his valuable and much-appreciated contribution.

Dates of Arrival.

	1895.	1896.
Mergulus alle	Feb. 25	Feb. 27
Uria mandti	„ 25	„ 24
„ *bruennichi*	April 4	Mar. 26
Pagophila eburnea	„ 16	April 6
Fulmarus glacialis	„ 21	„ 8
Larus glaucus	May 6	„ 4
Plectrophenax nivalis	April 20	„ 22
Rissa tridactyla	June 7	„ 26
Tringa [? *striata*]	„ 13	May 30
Bernicla brenta	„ 13	June 2
Stercorarius crepidatus	„ 17	„ 12
Sterna macrura	„ 17	„ 18
Somateria mollissima	„ 24	May 28
Strepsilas interpres	....	„ 27
Calcarius lapponicus	....	„ 28
Nyctea scandiaca	....	„ 26

Dates of Departure.

	1895.
Colymbus septentrionalis	Aug. 11
Stercorarius crepidatus and young	Sept. 4
Uria bruennichi	„ 14
Sterna macrura	„ 17
Fulmarus glacialis	„ 18

Dates of Departure (continued).

	1895.
Tringa [? *striata*]	Sept. 17
Larus glaucus	„ 25
Rissa tridactyla	„ 25
Plectrophenax nivalis	„ 30
Pagophila eburnea (adult)	„ 18
„ „ (young)	„ 30
Uria bruennichi (1 young)	„ 30
Bernicla brenta	Oct. 1
Mergulus alle	„ 1
Uria mandti	„ 1

XXIV.—*Further Notes on the Ornithology of the Cape Verde Islands.* By Boyd Alexander.

The following observations are the result of a second visit to the Cape Verde Islands in October 1897. Before giving them, however, I should like to withdraw two suppositions made in my previous paper (*suprà*, pp. 74–118) :—

Firstly, that the Kite of the Canary Islands recorded by Mr. Meade-Waldo under the name of *Milvus ictinus* is probably the Black Kite (pp. 79–80). This is not the case, *M. ictinus* being the species resident in the Canaries.

Secondly, the inference that all Desert-Larks lay no more than a single egg (p. 112). This was assumed on the strength of several nests of Desert-Larks, each containing no more than one young bird, having been found in May; but the dying away of all vegetable growth, and consequently of the insect-life which is usual at that time of the year on the islands, would be sufficient to account for many eggs of those early-breeding individuals being unfertile.

Neophron percnopterus.

From October to the end of January few adult Egyptian Vultures are to be met with around the villages. During that time they have all gone in couples to the highest hills, where they breed, and keep away from habitations as much as possible, seldom coming into the valleys unless a goat or cow is slaughtered by the peasants. Then from February onward the adults, with companies of young birds, begin to mobilize their forces outside the villages. On Oct. 28th, 1897, while on Boa Vista, we killed an adult female which would have laid her eggs in another week.

FALCO NEGLECTUS.

We took the two first eggs of this species on Raza on Oct. 11th, 1897, and a week later we obtained a series of clutches on Boa Vista. The nests were built on rocky ledges on the precipitous sides of hills. As a rule they were flimsy structures, consisting of fine roots and tufts of dead grass, with a little goat's-hair, and sometimes old rags, for a lining. The southern islands of the archipelago, especially Santiago and Maio, possess a larger form of this Kestrel. The *Falco neglectus* of Schlegel inhabits the northern islands, and is to be found breeding entirely in the precipitous rocks of hills, while the larger form invariably resorts to the tops of tall coconut-trees for nesting-purposes, and numerous pairs may frequently be found in one grove. Again, on the other islands the small form is met with in isolated pairs during the breeding-season. We obtained a fine series of both.

	Length. in.	Wing. in.	Tail. in.
Adult ♂, Santo Antão	11·0	7·7	5·0
,, ♂, São Nicolau	11·3*	7·8	4·6 (worn)
,, ♀, Santo Antão	12·5	8·0	5·5
,, ♀, São Nicolau	12·9*	8·4	5·6

The measurements of the two latter are almost identical with those of the typical specimen in the British Museum, which was obtained at São Vicente.

	Length. in.	Wing. in.	Tail. in.
Adult ♂, Santiago	13·0	8·6	5·6
,, ♂, Maio	13·5	9·0	5·58
,, ♀, Santiago	13·9	9·15	6·2
,, ♀, Maio	13·2*	8·95	5·86

* Measured in the flesh.

In colouring and dimensions the eggs correspond with those of *Falco cenchris*. I have two clutches of seven eggs each, but four to six are the usual complements. For Kestrels' eggs, each clutch is remarkably uniform as regards coloration.

STRIX INSULARIS.

We found this Owl by no means common. Holes in the rocky sides of valleys and the tops of coconut-trees are chosen as nesting-sites. On Dec. 2nd, 1897, while on Santiago, a native brought me two young birds in down, which I managed to bring home safely, and they are now in an aviary in my garden. They seem very popular, for all the White Owls of the neighbourhood pay them visits nightly, and no doubt envy them for their choice food, which consists of five Sparrows and three mice every night.

The female of this species is decidedly smaller than the male, and the breast-markings are fewer and less bright.

SYLVIA CONSPICILLATA.

Breeds on São Nicolau in November. In the following month we obtained several immature males on Santa Antão, and their plumage resembled that of the adult female.

SYLVIA ATRICAPILLA.

This Blackcap is a resident on the northern islands of the archipelago. On São Nicolau in November it was breeding in large numbers, and every valley was resounding with its musical song. About the end of February the numbers of the residents are increased by migrants. The nests were built in the coffee-bushes, and we obtained a fine series of clutches. The eggs of only one of these approach in any way the common type of our Blackcap's; all the others are very light in ground-colour, blotched, spotted, and streaked with dark and reddish brown, and underlying markings of purplish brown, so as to form a zone round the larger ends. The dimensions vary in length from $0''\cdot 8$ to $0''\cdot 73$, and in breadth from $0''\cdot 64$ to $0''\cdot 5$.

SYLVIA GULARIS.

This subspecies of *S. atricapilla*, with the brown throat, is to be found only on Santiago. Their numbers are, however, augmented towards the end of February by the migratory species on passage. Coming, as we did, to Santiago on Dec. 2nd, direct from São Nicolau, where *S. atricapilla* was in full song, the valleys on the former island struck us as being very silent, for the subspecies had finished breeding, the young were abroad, and the adults moulting. The immature bird does not possess the brown throat.

Calamocichla brevipennis.

We arrived on São Nicolau on November 4th, just at the right time to secure a couple of nests with eggs of this rare Warbler. The nest, of a deep cup-shaped form, is bound to two or more of the upper stems of a coffee-bush or of a young orange-tree, and about 8 or 9 feet from the ground. Fine strips from the dried-up blades of maize, dead grass, and fibrous rind from the trunk of the banana-tree compose the body of the nest, while fine grass and bents form the lining. The eggs, generally three in number, are bluish white, spotted and blotched, especially at the larger ends, with pale greenish brown and purple-brown, and with underlying blotches of violet-grey. Their dimensions correspond with those of the round form of the eggs of *Acrocephalus streperus*. Although the affinity of this species to typical examples of the genus *Lusciniola* is indicated by the possession of a long first primary, yet its flight, song, nest, and eggs show it to be a true Reed-Warbler.

Passer salicicola.

The Spanish Sparrow is almost as ubiquitous as *Passer jagoensis*. Nowhere else did we find this Sparrow in such numbers as on Maio. Small clumps of acacia-bushes in a valley close to the sea had their upper branches crammed with bulky domed nests, hardly a foot of space intervening between them.

Passer jagoensis.

This Sparrow is not at all particular as to where it builds its nest. Where trees are absent, hollows in the ground underneath boulders, or crevices in cliffs, are chosen. The proper breeding-season commences at the end of September.

When placed in a tree the nest is domed, but when in a hollow of the ground it is an open compact structure, and often lined with feathers. The eggs are four, rarely five, in number; in each clutch they are of a fairly uniform colour, with the exception of one, which is invariably lighter than the rest. In size, markings, and coloration they correspond with those of the Tree-Sparrow (*P. montanus*).

The adult plumage is not attained till the second year. The immature male resembles the adult female, but its upper parts and the stripe over each eye possess a decided rufous coloration, while the black on the chin and throat is a shade or two darker.

ESTRILDA JAGOENSIS.

On Nov. 17th, while on São Nicolau, we took a nest of this species. It was placed between the upper stems of a young orange-tree, domed like a Sparrow's, and composed of very fine freshly-plucked grass. The eggs, four in number, are white, and measure $0''{\cdot}6 \times 0''{\cdot}45$.

All the specimens we obtained on Santiago were caught at night by natives, who used to invade the strips of fish-cane where these birds roosted and dazzle them by means of a bright lantern. These birds are very partial to shady pools, which they frequent, at intervals, throughout the day.

Adult female. Like the male (*suprà,* p. 85), except that the eye-stripe is less extensive, the under tail-coverts are light brown flecked with black, and the tail dark brown.

Young female. General colour of the upper parts greyish brown, with faint traces of bars, shading into a rufous tinge on the rump and upper tail-coverts. Little or no rose-red on the breast and belly, which are washed with pale greyish buff, becoming brighter on the flanks and under tail-coverts, the latter flecked with brown.

ALÆMON ALAUDIPES.

The love-call of the male during the breeding-season has the ring of a clarion in it, and can be heard at a great distance. At this call, uttered three or four times in rapid succession, the female comes to his side, and he then shoots up into the air with wings closed above her head, uttering the whole time his note, which becomes tremulous as the flight upward is completed, and then he drops down again with a float-like motion of the wings almost upon the head of his consort.

The eggs, two in number, are laid on the bare ground, in a depression, or underneath a stone, or among the ruins of a wall. Their ground-colour is a dirty white, blotched and spotted with reddish brown, with underlying markings of purplish grey, which often form a thick zone round the larger end. Measurements: length 1″·0–0″·9, breadth 0″·7–0″·63. Incubation is performed by the female, and while she sits the male bird will decoy with antics the intruder right into the opposite direction to where the nest is situated.

Spizocorys razæ.

On Oct. 7th we approached Raza for the second time within the year, and we discovered the males of this very local species all busy in courting their mates. With wings drooping and scraping along the ground, a male would approach and circumvent a female, and then rise above her head and pour out his song as he ascended vertically with a gentle beat of wings, and not in the spiral circles that characterize the impetuous singing flight of our Sky-Lark. The song, uttered both on the wing and when stationary, consists of the call-notes constantly repeated. In the early morning, when numbers of these Larks were singing overhead, it was not unusual to find some singing in chorus, and this tended to lessen the somewhat monotonous character of their songs. When on the ground a ventriloquial call-note was constantly uttered, becoming very persistent just towards dusk.

The nest is placed in a small depression in the loose stony soil, either among a patch of grass, or underneath a boulder or a small creeping plant common on the island. It is a frail structure of dry grass, and if any attempt be made to detach it from its surroundings it falls to pieces in the hand. Incubation lasts for a period of 13 days, both sexes sharing in the task. The eggs, three in number, resemble both in coloration and dimensions those of the Wood-Lark (*Alauda arborea*), from which, if they were to be mixed up, there would be great difficulty in picking them out again.

PYRRHULAUDA NIGRICEPS.

Breeding commences at the beginning of October. Flat stone-covered places near the sea are the favourite resorts, the birds breeding together in large societies. The nests are extremely difficult to discover. If you stand still, the male birds will now and again proclaim their presence by rising up from the ground and indulging in their jerky little songs; but to passers-by they never betray themselves, sitting close the whole time, and creeping very often under some large stone. There is little variation in the song, which might be expressed by the words "All alive, ho!" constantly repeated. While on Boa Vista we were fortunate enough to frighten a male off his nest, containing two eggs, which were well incubated. The nest, composed of a little dead grass, was placed underneath a large stone. The eggs are a dirty white in ground-colour, evenly spotted and blotched all over with light brown, and with minute underlying spots of purplish grey; they measure $0''{\cdot}8 \times 0''{\cdot}59$.

CYPSELUS UNICOLOR.

Breeds in holes in the precipitous sides of hills. On Nov. 13th, on São Nicolau, we found a nest containing two eggs. Ground-colour white, minutely freckled with reddish brown, chiefly at the larger end, where a faint zone is formed. Measurements $0''{\cdot}87 \times 0''{\cdot}64$.

COTURNIX CAPENSIS.

It was a disappointment not to have met with a typical example of the Red-throated Quail. It certainly does occur on the islands, since we obtained specimens of the intermediate form, which was breeding in November at altitudes of over 4000 feet on São Nicolau. On the low lands of Maio, which are overgrown with a thick high weed, Quail got up in dozens at our feet, but they were chiefly migratory birds.

NUMIDA MELEAGRIS.

The Guinea-fowls were breeding on São Nicolau in November. The almost inaccessible parts of the highest hills were their strongholds. Every morning and evening the pairs congregated and came down on to the lower ground, only to fly back again at the slightest noise. Throughout the day they sheltered themselves from the heat behind boulders and clumps of bushes that grow on the summits. We found that the Black Kite preyed to a great extent on their young, as well as on those of the Quail.

PUFFINUS MARIÆ.

While on Raza we found that this Shearwater had young. The eggs are laid in September, and should the first be taken another is laid. Albinism occurs in this species, but unfortunately I arrived on the scene too late to prevent the destruction by some fishermen of a perfect albino specimen. However, we managed to obtain several specimens which exhibit a distinct tendency towards albinism. During the two weeks we stayed on Raza over 3000 of these Shearwaters were captured by the fishermen, who prepared them for food.

MIGRATORY SPECIES.

The eastern islands of the archipelago—Sal, Boa Vista, and Maio—appear to receive by far the greatest number of migrants. Although the Little Egret (*Ardea garzetta*) is a local breeding-species on the islands, the majority of the birds observed are migrants. These are to be seen up to the end of April, and it is probable they return again in the autumn, but they certainly do not winter in the archipelago.

I take the following notes from my diary:—

October 7th. A Montagu's Harrier circling above the little island of Branca, also a party of Turnstones (immature birds) on the low rocks fringing the sea.

October 18*th.* Some more Turnstones close to the harbour on Boa Vista, also three Whimbrels and a pair of Lesser Black-backed Gulls.

October 29*th.* While reconnoitring the pools close to

Coralinho Bay we disturbed two large flocks of Dunlins, among which were some Kentish Plovers; a little later on, three Curlew-Sandpipers and two Black-tailed Godwits.

November 11th, São Nicolau. A Swallow in company with a number of Swifts (*Cypselus unicolor*).

November 20th, Maio. The extensive salt-pans close to the sea were crowded with migrants. Dunlins, Knots, Greenshanks, and Sanderlings observed, while two Avocets kept flying from one pool to another. Over a large stretch of soft mud further inland Kentish Plovers ran to and fro busily feeding, uttering now and again their plaintive, tremulous whistles, which we still heard long after dusk had fallen.

November 22nd. A pair of Wheatears among some ruined huts close to the shore. They were very shy, but we succeeded in obtaining the female (in moult), which proved to be the large northern form of our *Saxicola œnanthe*. Around the same huts we killed a male specimen of *Eurystomus afer*.

On leaving Lisbon on December 20th, the sea, as far as Corunna, presented an extraordinary sight, for over its surface skimmed countless numbers of Gannets (*Sula bassana*), that looked like innumerable moving specks of white in the far distance.

XXV.—*Bulletin of the British Ornithologists' Club.*

Nos. XLIX.–LI.

No. XLIX. (December 29th, 1897.)

The forty-eighth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 15th of December, 1897. *Chairman*: P. L. Sclater, F.R.S. Twenty-four Members and four guests were present.

The Hon Walter Rothschild sent descriptions of the following species of birds from New Guinea:—

Cyclopsittacus macilwraithi, sp. n.

Forehead to middle of crown and line round eyes black, slightly washed with blue. Rest of head, neck, tail, and upper surface, including upper wing-coverts, dark grass-green. Primaries and outer secondaries black with bright blue outer webs; innermost secondaries green, with the inner webs black, bordered with buff. Sides of head and neck and entire breast buff, strongly washed with yellow. Abdomen, flanks, thighs, and under tail-coverts apple-green. Under wing-coverts apple-green, bright blue along the outer edge. Total length 125 mm., wing 86, tail 37, culmen 16, tarsus 10. Iris brown; bill deep brown.

Hab. North coast of British New Guinea (*coll. Anthony*).

Obs. Named in honour of Mr. MacIlwraith, from whom I received the specimen.

PACHYCEPHALA GAMBLEI, sp. n.

♀. Similar to *P. rufinucha*, Sclat., but with larger beak, larger even than in the male of that species, and the rufous nuchal patch extending over the head to the centre of the crown. Frontal white feathers with dark centres; olive colour of back slightly darker. Total length about 170 mm., wing 83, tail 67, culmen 21, tarsus 29.

Hab. Mount Cameron, Owen Stanley Range, 5000 feet (*coll. Anthony*).

Obs. Named in honour of Mr. Robert Gamble.

I take this opportunity of mentioning that Dr. A. B. Meyer described a *Pachycephala sharpii* in 1884; therefore Count Salvadori's *P. sharpii*, described from Loria's collection in 1896, must be re-named, and I have much pleasure in calling it *P. salvadorii* (nom. emend.).

EPIMACHUS ASTRAPIOIDES, sp. n.

Head and upper neck brilliant metallic purple. A bare spot behind the eye. Back and rump brownish black, some feathers tipped with metallic greenish blue. Tail black; central tail-feathers one third longer than the second pair, and shining steel-blue glossed with purple. Wings black, outer webs with steel-blue reflections. Chin and throat blackish purple, lower neck metallic coppery red, fading into shining coppery green on the breast. Abdomen green, the basal half of each feather being black. Flank-feathers long, extending beyond the wings, green fading into a coppery olive-green and mixed with some large scale-like feathers, purple with metallic-blue borders. Side plumes short, metallic purple, tipped with brilliant peacock metallic blue. Total length 830 mm., wing 185, tail 595, tarsus 50.

Hab. Dutch New Guinea.

Mr. Ernst Hartert exhibited a specimen of the rare *Myzomela lafargei*, Hombr. & Jacq., hitherto only known from the type in the Paris Museum. The specimen was from the Solomon Islands, either from Guadalcanar or Bougainville Island.

Mr. Sclater exhibited an egg of the "Turco" of the Chilians (*Hylactes megapodius*), belonging to the late Mr. Berkeley James's Collection, and obtained by Mr. A. A. Lane at Hacienda Mansel, as described in 'The Ibis' for 1897 (p. 44). The colour was white, but with an earthy brownish stain, and rather smooth texture, the dimensions 1·35 by 1·05. So far as Mr. Sclater knew, this was the first egg of any species of the family *Pteroptochidæ* yet described.

Dr. Bowdler Sharpe sent for exhibition some specimens of birds from Christmas Island in the Indian Ocean, where they had been collected by Mr. C. W. Andrews. The species exhibited were *Merula erythropleura* (Sharpe), *Zosterops natalis*, Lister, *Collocalia natalis*, Lister, *Carpophaga whartoni*, Sharpe, *Chalcophaps natalis*, Lister, *Astur natalis*, Lister, *Ninox natalis*, Lister, *Tringoides hypoleucus* (L.), *Limnobænus fuscus* (Linn.), *Mesophoyx plumifera* (Gould), *Demiegretta sacra* (Gm.), *Sula sula* (L.), *Phaëthon phœnicurus* (L.), *P. flavo-aurantius*, Lawr. The *Limnobænus* and *Mesophoyx* were additions to the list of Christmas Island birds, as published by Mr. J. J. Lister (P. Z. S. 1888, pp. 517–529).

Mr. W. R. Ogilvie Grant made some remarks on the Tropic-Bird (*Phaëthon flavo-aurantius,* Lawrence) obtained by Mr. C. W. Andrews on the above-mentioned island. This apricot-coloured form had been figured by Reichenbach [Syst. Av. pl. 30. fig. 852 (1850)] under the name of *P. flavirostris,* Brandt, and was subsequently described by Lawrence [Ann. Lyc. N. York, vii. p. 142 (1862)], from a skin of unknown origin, as a distinct species. In 1887 Mr. J. J. Lister visited Christmas Island and collected there examples of this "fine golden-pink" Boatswain-Bird, which were entered in his list (*l. c.*) under the name of *P. flavirostris. P. flavo-aurantius* exactly resembled the latter species in the arrangement of the black markings on the plumage, but differed in having the whole of the light parts of a fine orange-salmon or apricot-colour. This tint did not fade after death, nor did it seem due to extraneous colouring-matter. All the examples of this bird obtained and seen at Christmas Island were similarly coloured, and Mr. Grant considered *P. flavo-aurantius,* Lawr., a well-marked subspecies of *P. flavirostris,* Brandt, with which it had hitherto been regarded as synonymous.

Mr. Grant also pointed out that, after comparing large series of skins of *Phaëthon,* he found that typical examples of *P. flavirostris,* Brandt, from Ascension, Réunion, Seychelles, Pelew Islands, &c., differed constantly from the Yellow-billed Boatswain-Bird met with at Bermuda and the West Indies, and he proposed to distinguish the birds from the latter localities under the name of

PHAËTHON AMERICANUS, sp. n.

Adult male and female. Similar to *P. flavirostris,* Brandt, but differing constantly in the following points:—the black on the outer web of the first primary extending to within half an inch of the extremity, on the second and fourth quills reaching almost to the tip, while the third quill had the outer web entirely black. Bill entirely yellow, except above the nasal opening.

Range. East and south-east coasts of North America, from Bermuda to the West Indies.

No. L. (January 30th, 1898).

The forty-ninth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 19th of January, 1898. *Chairman*: Philip Crowley. Twenty Members and three guests were present.

Dr. Bowdler Sharpe exhibited a specimen of *Otus abyssinicus,* Guérin, from Somaliland. This individual was obtained by Mr. J. Benet Stanford, and was of great interest as determining a species which had hitherto been unidentified in England. In 1875, when writing the second volume of the 'Catalogue of Birds,' Dr. Sharpe had been unable to determine the species further than by quoting Heuglin's description of it. The late Mr. Gurney had suggested that *Otus abyssinicus* might be identifical with *Bubo milesi,* Sharpe; but a comparison of the two birds showed that this was not the case, although the former species was really a *Bubo* and not an *Asio,* so that its proper title was *Bubo abyssinicus* (Guérin). The shape of the ear-orifice conclusively proved this to be the case, as was admitted by Mr. Pycraft, who had recently made a special study of the Owls.

Dr. Bowdler Sharpe also exhibited some specimens of *Turdus tristis,* Swains., and *T. leucauchen,* Sclater, from the Salvin-Godman Collection. Up to the present day these two species had been united together as the extremes of one variable form, and the late Mr. Seebohm believed that every possible intermediate link existed between them, and that they were found side by side in most parts of Central America. Dr. Sharpe pointed out that the splendid series now in the Salvin-Godman Collection proved that *T. tristis* was perfectly distinct from *T. leucauchen,* and was confined to Mexico. It never had a yellow bill, even in summer, and had the tail olive, like the back. *T. leucauchen,* on the other hand, had a black tail, and in summer had a grey upper surface and an entirely yellow bill. In autumn and winter the bill was blackish and the plumage brown of various tints, but there was no reason to confound it with *T. tristis* at any time of year. The range of *T. leucauchen* extended from Chiapas to Panamá. This simple explanation of summer and winter plumages had only now become possible from a study of the large series of Central American Thrushes collected in every month of the year, as was now the case with the species in the Salvin-Godman Collection, and it would doubtless give the key to the solution of many other knotty questions in the *Turdidæ.* For instance, the black bill of *Turdus daguæ,* Berlepsch (Orn. MB. v. p. 175), was not a specific character, as the describer imagined, but merely an accompaniment of winter plumage, and Dr. Sharpe believed that the last-named bird would have to be united to *T. leucauchen. T. phæopygoides* of Seebohm was certainly only *T. phæopygus* in non-breeding plumage.

Mr. Howard Saunders exhibited an example of the Water-Pipit (*Anthus spipoletta*) which had been procured by Mr. Caton Haigh on the 3rd of December in Carnarvonshire.

Mr. Boyd Alexander showed specimens of some of the new and rare species discovered by him in the Cape Verde Islands, and exhibited the nest and eggs of the Reed-Warbler of the islands (*Calamocichla brevipennis*), found by him on his second expedition to the archipelago.

Mr. Tegetmeier exhibited the skin of a hybrid Pheasant between *Phasianus reevesi* and *Thaumalea picta.* This interesting specimen is described in 'The Field' for Jan. 22, 1897.

Mr. J. H. Gurney communicated the following description of a new Goshawk :—

ASTUR BUTLERI, sp. n.

Adult male. Whole of the upper parts bluish grey, lightest on the head; breast pink, finely barred with white, one indistinct bar at the end of the tail. No bars on the primaries, secondaries, or under wing-coverts, which are quite white; in this respect, and in its plain tail, greatly differing from

Astur poliopsis (Hume), which has all the tail-feathers barred except the middle ones. Iris bright orange. Feet yellow. Length 11·7 inches, wing 6·7, tail 5·3, tarsus 1·9.

Immature male. Whole of the upper parts dark chestnut, darker on the nape, each feather having a dark centre. Tail cinnamon-red, with two dark brown bars. Breast and sides reddish brown, blotched with buff. Belly whitish buff, blotched with rufous. Throat buff, with a thin median streak of chestnut. Underside of wing cinnamon. Primaries and secondaries indistinctly barred. Under wing-coverts barred with rufous. Iris greyish white. Feet pale lemon. Bill black, base bluish. Cere pale green. Eyelid greenish (collector's ticket).

Obs. "These Hawks, and two others said to be exactly like them, were shot in September 1897 on the island of Car Nicobar, in the Bay of Bengal, by Mr. A. L. Butler, and are named after Col. E. A. Butler, of Brettenham Park, Bury. Mr. Butler writes that they are 'not uncommon in forest on Car Nicobar, keeping almost exclusively to the tops of high trees; continually utters a shrill little double cry, exactly like *Astur badius*. Young birds are extremely chestnut in colour. The one I send had one or two filaments of nest-down still hanging to it, proving this to be the first plumage acquired. Young birds have a trick of fluttering on a bough like a broken-legged bird. . . . . . In September I noticed several rufous-crowned young birds probably bred in March or April, and at the same time both adult cocks killed were in a state of breeding.'

"Dr. Sharpe concurs in thinking they are a species distinct from *Astur poliopsis* and *A. badius*. In the whole of the series at the Natural History Museum there was not one at all approaching the bright chestnut Kestrel-like colour of *Astur butleri* when immature."

Mr. Ernst Hartert exhibited a new Humming-bird, which he described as follows:—

Chalcostigma purpureicauda, sp. n.

♂. Above deep green, with a metallic bluish gloss. Tail rich purple, the two lateral rectrices with narrow buff tips, the central pair metallic greenish blue towards the tip. Below dark green, each feather with a rusty-brown border, broader towards the belly, which is almost entirely rusty brown. Under tail-coverts purplish steel-blue, with broad rusty-buff edges. Chin and throat glittering green in the middle. The irregular shape of the glittering spot on the throat and the rusty edges on the underside are probably signs of immaturity. Wing 71 mm.; lateral rectrices 54, central 40; exposed part of culmen 13·5.

One specimen, evidently a male, found in a Bogotá collection of Humming-birds. The bill is sharply pointed; the mandible is distinctly turned upwards before the tip, reminding one of *Opisthoprora*. The rectrices are very wide, the lateral and central ones fully 12 mm. The purple tail reminds one somewhat of *Zodalia*, which, however, has the tail much longer.

This species has apparently no very close ally.

Mr. E. Hartert further submitted some other new South-American birds, collected in Ecuador by Mr. Rosenberg. He characterized them as follows:—

Cercomacra rosenbergi, sp. n.

♂ *ad.* Above blackish cinereous; a large concealed dorsal spot of white. Wings and tail greyish black; tail without any white tips. Bend of wing mixed black and white. Wing-coverts with rounded white tips. Wing 63 mm., tail 51, bill 19, tarsus 28.

Cachabi, North Ecuador, 500 feet high. Named in honour of the discoverer.

This species is allied to *C. tyrannina* and *C. approximans*, but differs in having no white on the inner edges of the wing, and in having no large white spot on the bend of the wing. The tips to the wing-coverts are rather rounded, the rectrices having no white tips whatever.

Pyriglena berlepschi, sp. n.

Entirely black, with a large concealed dorsal spot of white.

Inner aspect of wings blackish brown. Wing 44–46 mm., tail 47, bill 20, tarsus 28.

Cachabi, North Ecuador, 500 feet high. Named in honour of Count Berlepsch, the eminent specialist in South-American birds.

This species differs from *P. ater* chiefly in its considerably smaller size, while *P. picea* has, besides a much larger-sized toe, the inner wing-lining whitish.

THAMNOPHILUS CACHABIENSIS, sp. n.

Above black without any gloss, somewhat more slaty on the crown. Most of the wing-coverts with small white tips. Below slaty black ; feathers of the chin, throat, breast, and a few along the middle of the abdomen with white tips. Wing from below brownish black. Bill and feet black. Wing 67 mm., tail (rather abraded) about 46, tarsus 26.

Cachabi, North Ecuador, 500 feet.

The two skins before me are both marked "♀," which may possibly be correct, as in *T. punctatus*, the nearest known ally to *T. cachabiensis*, though widely different, the sexes are both black and very much alike.

AUTOMOLUS NIGRICAUDA, sp. n.

♂. Above dark brown, somewhat more rufous brown on the crown of the head. Wings deep brown, inner webs with rufous edges. Behind the eyes a clearly indicated rufous superciliary line. Ear-coverts dark brown. Throat rufous, lighter on the chin. Rest of under surface brown; flanks and under tail-coverts deeper brown. Under wing-coverts dark rufous. Tail from above black, with a slaty tinge, blackish brown below, this latter character distinguishing this species from all its allies, which have a reddish tail. Wing 90 mm., tail 72, bill 24, tarsus 28.

Cachabi, North Ecuador, 500 feet.

POLIOPTILA SCHISTACEIGULA, sp. n.

♂. Above slaty grey; crown of head a little darker. Wings slaty black. Tail black; some of the outer rectrices with narrow white tips, the extent of which cannot be exactly seen, as the tail-feathers are a little abraded. Chin-feathers white, with slate-coloured bases; entire throat and fore-neck slate-colour. Under wing-coverts white, slate-colour near the bend; inner webs of quills with a white margin towards the base. Breast, abdomen, and under tail-coverts white. Wing 50 mm., tail 43, tarsus 16, bill 12.

Cachabi, North Ecuador, 500 feet.

Mr. W. P. Pycraft exhibited the skulls of the principal forms of the *Steganopodes,* and pointed out the characters by which these birds could be distinguished, not only by a comparison of the skulls, but also of the pelvis, the shoulder-girdle, and other portions of the skeleton. *Phaëthon* appeared to be the least specialized, and was probably the most archaic of the Order.

No. LI. (February 26th, 1898).

The fiftieth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 16th of February, 1898. *Chairman*: P. L. Sclater, F.R.S. Twenty-one Members and two guests were present.

The Hon. Walter Rothschild sent for exhibition the types of the following three new species:—

Pitta dohertyi, sp. n.

♂ *ad.* Top of the head and nape brownish red, darker on the forehead, in the middle of which, at the base of the culmen, are a few pale bluish feathers. Entire throat and a ring round the neck black; the feathers in the middle of the throat having concealed white bases. A broad band across the lower throat and upper back—interrupted on the sides of the neck—pale blue, followed by a broad black band across the upper breast. Lower breast, entire abdomen, and under tail-coverts red, with white and black bases to the feathers. Back and scapulars olive-green, darker in the middle of the feathers. Least wing-coverts dark olive-green, the remainder pale blue with lighter edges, those near the shoulder with white bases. Rump, upper tail-coverts, and tail pale blue.

Quills black, tips brownish with a bluish wash; second to fifth primary with a white speculum. Under wing-coverts brown. "Iris deep chestnut-brown; feet purplish grey; bill black, gape and tip of culmen dull ochreous." Wing 99 mm., tail 39, bill 20, tarsus 40.

♀. Throat brownish black. Dimensions a little smaller. Iris white!

The entirely black throat and breast-band and the scaly appearance of the upper parts distinguish this bird at a glance from the other species in which the abdomen is red.

Hab. Sula Mangoli; discovered by Mr. William Doherty, of Cincinnati.

PTILINOPUS MANGOLIENSIS, sp. n.

Belongs to Group A of the arrangement of the genus *Ptilinopus* in the 'Catalogue of Birds,' vol. xxi., and resembles *P. subgularis*, Mey. & Wiglesw., in the absence of the rust-coloured spot on the abdomen; but it differs from both *P. gularis* and *P. subgularis* in being greenish yellow on the neck and under surface, all the feathers of these parts being light grey with broad greenish-yellow borders. The feathers of the crown have narrow sub-terminal yellowish lines. Wing of the male 165, of the female 156 mm.; tail of male 136, of female 130 mm.

Hab. Sula Mangoli (*W. Doherty coll.*).

PTILINOPUS EVERETTI, sp. n.

This new species may be described as being between *P. cinctus* and *P. albocinctus*. It differs from *P. cinctus* in having the throat and neck white with fine narrow, wavy, very pale grey cross-lines—instead of white washed with lemon-yellow—and in having a wider and lighter terminal bar across the tail-feathers. *P. albocinctus* has the throat and neck bluish grey, and the abdomen darker, the bar across the tail narrower. *P. lettiensis* differs in having the neck and throat ivory-white, and the end of the tail yellowish white, not pale grey.

P. everetti was found on the island of Alor by Mr. Alfred Everett.

Mr. Ernst Hartert exhibited specimens of three new Pigeons discovered on the Island of Obi Major (or Obi), Moluccas, by Mr. William Doherty. He characterized them as follows:—

Carpophaga obiensis, sp. n.

Of the same pattern of coloration and the same dimensions as *C. basilica,* of the Northern Moluccas, but the entire head, throat, fore-neck, and breast much deeper vinous, with a greyish wash; hind-neck darker grey, separated from the vinous head by a rusty patch. Abdomen and under tail-coverts deep cinnamon, instead of pale cinnamon.

Ptilinopus granulifrons, sp. n.

This remarkable new species entirely agrees in the pattern of its coloration with *P. hyogaster* (Temm.) from Halmahera and Batjan, but differs in the following points:—On the forehead, at the base of the bill, is a mass of fleshy knobs, of which there is no sign in *P. hyogaster.* The green of the back, and especially of the breast, is much more yellowish. The grey of the head is lighter and covers also the occiput. The vent and under tail-coverts are of a paler lemon-yellow. The wing is generally a little shorter, measuring 122–132 mm.

Reinwardtœnas reinwardti obiensis, subsp. n.

Differs from the smaller form of *Reinwardtœnas reinwardti,* of the Northern Moluccas, in having the chin and cheeks washed with yellowish buff.

Mr. G. E. H. Barrett-Hamilton exhibited specimens of ornaments made in Canton—the foundation being of silver, with a minute inlaying of blue feathers from several species of birds; the appearance produced being that of enamel.

Mr. E. Bidwell exhibited a number of photographs of mounted birds in the Hancock Collection at the Newcastle Museum. Some of these birds were among the rarest visitors to Great Britain (*e.g.* the Black Kite and the Red-necked Nightjar), while others (such as the Northern

Falcons, the Great Auk, &c.) were fine examples of the late Mr. Hancock's skill in taxidermy.

Mr. W. EAGLE CLARKE called attention to three species of birds hitherto unrecognized in Franz Josef Land. Of these, he exhibited a skin of the Shore-Lark (*Otocorys alpestris*), and also one of Bonaparte's Sandpiper (*Tringa fuscicollis* Vieill.), obtained on June 28th, by Mr. Bruce, of the Jackson-Harmsworth Expedition. The occurrence of the latter species was remarkable, inasmuch as its Arctic range was only known to extend from Greenland westward to Point Barrow, Alaska. The third unrecorded species was the Purple Sandpiper (*Tringa striata* Linn.), the eggs and downy young of which were obtained.

Mr. W. R. OGILVIE GRANT exhibited, on behalf of Dr. Bowdler Sharpe (absent, owing to illness), a few skins from a collection of birds made in Mashonaland by Mr. J. Lawrence Sowerby, late of the B. S. A. Co. Police. Among these were examples of several interesting species, including *Melierax meehowi*, *Monticola angolensis*, &c., and a new Barbet, which Dr. Sharpe proposed to call

STACTOLÆMA SOWERBYI, sp. n.

Similis *S. anchietæ*, sed mento albo, gutture et præpectore nigricantibus, gastræi plumis albido apicatis, tibiis albis, distinguenda. Long. tot. 6·6 poll., alæ 3·75.

Mr. GRANT also read descriptions of three new species of birds recently obtained by Messrs. C. B. Rickett and J. de La Touche in the Province of Fohkien:—

1. CRYPTOLOPHA SINENSIS Rickett, sp. n.

Like *C. castaneiceps* Hodgs., but the breast and belly are uniform yellow and only the outermost pair of tail-feathers have the inner web white. Wing 1·85–2·0 inches.

2. CETTIA SINENSIS La Touche, sp. n.

Nearest to *C. fortipes*, but the throat, fore-neck, middle of the chest, and breast white; sides, flanks, and vent snuff-brown; no tinge of fulvous on the middle of the belly. Wing 1·9–2·2, tail 1·7–2·05 inches.

3. Cryptolopha intermedia La Touche, sp. n.

Near *C. tephrocephala* (Anders.) and *C. affinis* (Hodgs.). Differs from the former in having a much shorter bill, and the secondary coverts distinctly tipped with pale yellow, forming a well-marked bar; from *C. affinis* it differs in having a ring of feathers round the eye, yellow. Wing 2·2–2·3 inches.

Mr. Sclater called attention to the excellent regulations made by Capt. A. H. Cowie, R.E., M.B.O.U., for the preservation of the wild birds in Wolmer Forest, as Hon. Sec. of the Aldershot Game-Preserving Association. All Hawks, Owls, and other birds were preserved as far as possible, and no guns were allowed to be carried by the gamekeepers. The heronry in Wolmer Forest had increased under Capt. Cowie's influence from one or two nests to nearly 20, and about 50 young birds were reared in 1897.

The announcement of the unexpected death of Mr. Daniel Meinertzhagen on 13th inst., at the age of 22, was received with regret. He was one of the last-elected Members of the B.O.U., and the latest recruit to the B.O.C.

XXVI.—*Notices of recent Ornithological Publications.*

[Continued from p. 173.]

27. *Beal on Common American Birds.*

[Some Common Birds in their Relation to Agriculture. By F. E. L. Beal. U.S. Department of Agriculture. Farmer's Bulletin, No. 54. 1897.]

The author begins with the remark that there seems a tendency to dwell upon the harm birds do to agriculture rather than on the good. He proceeds to make out good cases for the Yellow-billed Cuckoo, several of the Woodpeckers, the King-bird, and the Phœbe; while he can plead many extenuating circumstances in favour of the Blue Jay, Crow, Bobolink, Red-winged Starling (which the Duke of Argyll tried to introduce into this country), and many others. Illustrations are given of nearly all these species, lest any finding them should slay them. As one of the 'Farmers' Friends and Foes' serials, this carefully drawn-up pamphlet must prove useful in the United States.

28. *Blaauw on the Reproduction of the Rufous Tinamou in Captivity.*

[Notes sur la Reproduction du *Tinamou roux* en captivité en Hollande. Par F. E. Blaauw. Bull. Soc. Nat. d'Acclim. France, Dec. 1897.]

The Rufous Tinamou (*Tinamotis rufescens*) is a bird always to be commended to those who are wishing to try experiments in what is called "acclimatization"; and Mr. Blaauw now gives us a lively account of his experiences in breeding it, as he has succeeded in doing for the last three years. The male, as is well known (*cf.* Bartlett, P. Z. S. 1867, p. 687), performs the incubation and takes charge of the young birds; while the hen, as soon as the eggs are laid, wanders off to find another mate.

29. *Büttikofer on* Stoparola concreta.

[On the Identity of *Stoparola concreta* with *Siphia cyanea*. By Dr. J. Büttikofer. Notes Leyden Mus. xviii. p. 221.]

Dr. Büttikofer has convinced himself that *Muscicapa concreta* Müller, from Sumatra, is the same as *Muscitrea cyanea* Hume (=*Siphia cyanea* Sharpe, Ibis, 1890, p. 366), from Tenasserim and Malacca. The former specific name has priority.

30. *Campbell on Nests and Eggs of Australian Accipitres.*

[Nests and Eggs of the Australian Accipitres, or Diurnal Birds of Prey. By A. J. Campbell. Rep. Australian Assoc. Adv. Sci., Brisbane, 1895.]

This memoir, prepared for the meeting of the Australian Association for the Advancement of Science, held at Brisbane in 1895, contains concise descriptions of the nests and eggs of the Diurnal Birds of Prey of Australia, all of which, save one, are now more or less known. Mr. Campbell, no doubt correctly, places the Accipitres as "among the most useful" of the native birds in Australia.

31. *Cory on North-American Birds.*

[How to Know the Ducks, Geese, and Swans of North America. 4to. Boston, 1897.

How to Know the Shore-Birds (*Limicolæ*) of North America (South of Greenland and Alaska). By Charles B. Cory. 4to. Boston, 1897.]

These are little more than illustrated pamphlets, so far as mere size goes, for the former consists of only 95 pages, and the latter of only 89; but the matter is excellent. The plan of grouping the species according to size and colour presents many inconveniences and incongruities; for instance, the Hooded Merganser finds itself in Group 3, with Teal, Tree-Ducks, Scaups, and the Long-tailed Duck, merely on account of its size. The descriptions, or rather diagnoses, of the various species are, however, remarkably lucid; while the illustrations (chiefly of the heads, but sometimes of the whole bird, among the *Limicolæ*) render identification easy. These are books of a kind that we are glad to have at hand for reference.

32. *Evans (H. M.) on British Birds.*

[Status of Birds in the British Isles and in Devonshire. By H. M. Evans. 8vo. Plymouth, 1897.]

In compiling this pamphlet of 30 pages the author has employed his time, with some advantage to himself, in sorting the species of birds in the British list into Residents, Summer and Winter Visitors, Stragglers, Rarities, and Occasional Wanderers. To the credit of Devon, he shows that four-fifths of the total number have occurred in his county. He has evidently taken much pains with his work, and we are sure that he now knows a great deal more about birds than he did when he began to write.

33. *Godman and Salvin's 'Biologia Centrali-Americana.'*

[Biologia Centrali-Americana; or, Contributions to the Knowledge of the Fauna and Flora of Mexico and Central America. Edited by F. DuCane Godman and Osbert Salvin. (Zoology.) Part CXXXVIII. (Published for the Editors by R. H. Porter, 7 Princes Street, Cavendish Square, W.]

The completion of the second volume of the Birds of the 'Biologia' was announced in our last notice of this great work (see Ibis, 1897, p. 462). We have now before us the first portion of the third volume, mainly occupied by the Owls, in treating of which the arrangement adopted in the 'Nomenclator' is closely followed. One species of *Strix* is the only representative of the Strigidæ in Central America; while of the more numerous Asionidæ no fewer than 32 species are recognized as coming within the limits of the work. These are referred to ten genera; *Scops*, with eleven species, being the most numerous. Excellent coloured figures are given of *Syrnium fulvescens* and *Scops trichopsis*.

Next to the Owls comes the Osprey, which Mr. Salvin places at the head of the Order *Accipitres*: he does not separate the American form from *Pandion haliaëtus* of the Old World.

34. *Hartert on Birds from Savu.*

[On the Birds collected by Mr. Everett on the Island of Savu. By Ernst Hartert. Nov. Zool. iv. p. 263.]

The little island of Savu, situated between Rotti and Sumba, was visited by Cook in his first voyage (see vol. ii. p. 258, 8vo edition, 1821), but does not seem to have been explored by any recent traveller except Riedel, who has written on its ethnology. Mr. Everett arrived there in August 1896, and stayed a month, but gives a poor account of the island. The birds which he obtained are referred by Mr. Hartert to 51 species, none of which are peculiar; the avifauna of Savu is, in fact, the same as that of Timor. *Gerygone everetti*, which Mr. Hartert in the present paper describes as new, occurs also in Timor.

35. *Hartert on Honey-eaters and other Birds from New Guinea.*

[On some *Meliphagidæ* and other Birds from New Guinea. By Ernst Hartert. Nov. Zool. iv. p. 369.]

In a collection recently received at Tring four interesting Honey-eaters are represented, from an elevation of from 5000 to 6000 feet, between Mount Musgrave and Mount Scratchley. One of them Mr. Hartert describes as new and calls *Ptilotis præcipua.* He also remarks that *Neopsittacus viridiceps* De Vis (Ibis, 1897, p. 371) is the same as his *N. pullicauda.*

36. *Hartlaub on the Birds of China.*

[Ein dritter Beitrag zur Ornithologie Chinas. Von Dr. G. Hartlaub in Bremen. Abh. nat. Ver. Bremen, xiv. p. 341, 1897.]

Our veteran and much-esteemed associate, Dr. Hartlaub, writes on the birds obtained in China by the well-known German collector, Gerhard Philipp Schmacker, lately deceased. These have been presented to the Bremen Museum, and consist of about 750 skins referable to some 250 species. The greater part are from Shanghai, but many were obtained in Hainan, Formosa, and other localities.

After interesting remarks on recent ornithological workers in China, and a useful account of their publications, Dr. Hartlaub gives a systematic list of the species represented in Schmacker's collection—275 in all—and such remarks as are called for on each of them. *Garrulax schmackeri,* a fine new species from the interior of Hainan, is described and figured. The collection contained a single example of the curious Wader, *Eurinorhynchus pygmæus* from Hoihow.

37. *Harvie-Brown and Barrington on Rockall Island.*

[On the Ornithology of Rockall. By J. A. Harvie-Brown, F.R.S.E., F.Z.S., and Richard M. Barrington, LL.B., F.L.S. Trans. R. Irish Ac. xxxi. part iii. pp. 66–75.]

On the expedition to this granitic peak, the Rock was sighted on June 6th, 1896, but the weather was unfavourable. A second visit was made on June 15th, but landing was impossible. On the Rockall bank nineteen species of birds were identified, all of them marine, except a Dunlin; while the population of the Rock consisted, at a rough guess, of 250 Guillemots, 30 Puffins, 50 immature Kittiwakes, 10 Gannets (8 immature), and possibly 1 or 2 Razorbills. Numbers of Great Shearwaters (*Puffinus gravis* O'Reilly, formerly better known as *P. major* Faber) were observed on the Bank in the month of June, as well as many Manx Shearwaters; but the former species certainly was not breeding there. Its summer habitat is in the Southern hemisphere, but it annually frequents the North Atlantic between May and September (the winter months of the south), and of the thousands taken for bait on the coasts of the Bay of Fundy not one was ever found to show any indication of breeding. The evidence on this point is given at considerable length; and a list is added of the birds observed on the expedition.

38. *Helms on Birds from East Greenland.*

[Ornithologiske Iagttagelser fra Angmagsalik, Öst-Grönland, af J. Petersen. Meddelte af O. Helms. Vidensk. Meddel. fra den naturh. Foren. i Kbhvn. 1898, p. 169.]

The author writes on the birds collected and observations made by Hr. Johan Petersen in the neighbourhood of Angmagsalik, in East Greenland, during the three years 1895–7. Twenty-seven species are enumerated and commented upon. Eight of them are Passeres.

39. *Hurdis on the Birds of the Bermudas.*

[Rough Notes and Memoranda relating to the Natural History of the Bermudas, by the late John L. Hurdis. Edited by his Daughter, H. J. Hurdis. 8vo. London: R. H. Porter, 1897.]

Miss H. J. Hurdis has edited and published the rough notes and memoranda relating to the Natural History of the Bermudas made by her father, the late John L. Hurdis, Controller of Customs and Navigation Laws in those islands, from 1846 to 1854. Some 300 out of the 408 pages relate to Birds, of which Mr. Hurdis was, as is well known, a most diligent and enthusiastic observer. The volume is dedicated to the memory of the late Col. Drummond-Hay; and frequent mention will be found in it of the names of Wedderburn, Tristram, Orde, and John Matthew Jones, author of 'The Naturalist in Bermuda,' in whose work some of these notes have already appeared. Miss Hurdis appears to be unacquainted with Capt. Savile G. Reid's excellent memoir on the Birds of Bermuda (1884), published in the Bulletin of the U.S. National Museum; and her interesting volume is rather out of date in scientific value.

40. *Hutton on the Moas of the North Island of New Zealand.*

[The Moas of the North Island of New Zealand. By Capt. F. W. Hutton, F.R.S. Trans. N.Z. Inst. xxix. p. 540 (1896).]

Capt. Hutton gives us here a revision of the Moas of the North Island of New Zealand, to which he has lately paid special attention, having examined most of the specimens in the New Zealand collections. He now concurs generally with the nomenclature used by Mr. Lydekker, but prefers to use the term *Euryapteryx* instead of *Emeus*. It appears that most of the genera of Dinornithidæ are represented in both the North and South Islands, while "nearly all the species of each island are distinct." Capt. Hutton therefore concludes that the "two islands of New Zealand were separated from each other after the development of most of the genera, but before the development of the species."

The species of Moas recognized by the author as represented in the North Island are eleven, which are referred to six genera—*Dinornis, Megalapteryx, Anomalornis, Cela, Euryapteryx*, and *Pachyornis*—besides two of uncertain position. *Anomalornis* is proposed as a new name in place of *Anomalopteryx*, preoccupied in entomology.

41. *Macpherson on Fowling.*

[A History of Fowling, being an Account of the many curious Devices by which Wild Birds are or have been captured in different parts of the World. By the Rev. H. A. Macpherson, M.A. 4to. Edinburgh: David Douglas, 1897.]

We congratulate the author upon the production of an admirable work, and one which must have cost him immense labour as well as research. Devices to snare birds date back to the earliest times; but in civilized communities they have gone out of fashion since the invention and perfection of firearms. Their employment is generally considered as rather low, and even as not legitimate, especially when they interfere (as in the case of grouse-netting) with what the user of a gun looks upon as his prerogative. Apart from the question of "game," there can be no doubt that fowling may at times lead to a very serious diminution in the number of interesting as well as useful birds; and it seems important that legislation should interfere, at least so far as to prohibit the capture of birds during or dangerously near their breeding-time. In this country fowling is chiefly confined to certain classes; but on the Continent it is still pursued as a pastime by persons of good position, especially in Belgium, and above all in Italy. To show how this acts, we may quote a Signor Fucini, who naïvely remarks (p. 82):—"The Shrikes, now comparatively rare, were at one time extremely common. I remember that when I was a boy I used to catch them with limed twigs and the mole-cricket, and one could take forty or fifty in a day." If *one* boy could do this, even for the fortnight of passage, small wonder that the Butcher-bird is now rarer than it was. Mr. Macpherson goes through the list of birds *seriatim*, beginning with the Corvidæ and working through the Passerine birds; he shows that the Picariæ are less exempt from pursuit than might be supposed; he describes Parrot-fowling; and we leave the perusal of the chapters relating to sport with the Owls under the conviction that a great deal of ornithology may be learned by setting-up a *Civetta* or an Eagle-Owl and watching the behaviour of the species which come to mob them. We are not surprised to hear that the interest in this branch is increasing, and there is quite an extensive trade in Owls. And when the decoy-bird dies, he can be served up as a dainty dish (see p. 167)! With the capture of Hawks and the use of the Shrike we are more familiar; Gannet-catching is not unknown; while the taking of waterfowl, the subject of decoys, and the devices to circumvent game-birds have also been written upon; but as to all these items the author gives us a vast amount of information which has never been put together before. No one can have an idea of how good a book this is until he has read it through. It is also profusely illustrated, many of the head-pieces being reproductions of quaint old engravings, while the vignettes are often of great beauty and artistic merit. The frontispiece is after a picture by Lancret, representing two men engrossed with the management of their clap-nets, while two young ladies are taking a sentimental interest in the operation, and two others are displaying that superb indifference to the whole affair which may be seen, multiplied a thousand fold, at any Eton and Harrow match. But they are not wearing hats with feathers, and in no way interfere with the enjoyment of others.

42. *North on the Nesting of three Australian Birds.*

[Descriptions of the Nests and Eggs of three Species of Australian Birds. By Alfred J. North, C.M.Z.S. Proc. Linn. Soc. N. S. Wales, 1897, p. 56.]

Mr. North describes the nests and eggs of *Cracticus rufescens* De Vis, *Sphenura broadbenti*, and *Dendrocygna eytoni*. It appears from what is stated to be by no means as yet definitely certain that *Cracticus rufescens* is different from *C. quoyi*; at any rate it seems that in adult male plumage *C. rufescens* is black.

43. *Oates's Game-Birds of India.*

[A Manual of the Game-Birds of India. Part I. Land-Birds. By Eugene W. Oates. 12mo. Bombay, 1898.]

This handy little volume will, we have no doubt, be acceptable to the many "gunners" resident in India, who would like to know something more about the birds they shoot for sport and "the pot" than their mere ordinary names. The present part is devoted to the land-birds, leaving the water-birds to be treated of in a second volume. It contains an account of the Sand-Grouse, Hemipodes, Gallinaceous birds, Megapodes, and Bustards: altogether 88 species. Of each of these a short but sufficient description is given, as well as an excellent summary of what is known of range and habits. The accomplished author, who has worked so long and so well on Indian ornithology, has evidently bestowed great care and attention on this little work.

Mr. Oates characterizes three new species of Silver-Pheasants in the present volume—*Gennæus williamsi* from Upper Burmah, *G. sharpii* from the hills between Burmah and Siam, and *G. rufipes* from the Ruby-Mines district of Burmah. We are pleased to see that he does not succumb to the attempt made in the 22nd volume of the B. M. Catalogue of Birds to change the name of the Impeyan Pheasant, and is able to give excellent reasons why this deviation from ordinary usage should not be followed.

44. *Pavesi on Pavian Birds.*

[Calendario Ornitologico Pavesi 1893–95 del Prof. Pietro Pavesi. Boll. Scientifico, Pavia, 1895.]

The records of the Pavia district for the above three years contain nothing very remarkable; a Little Egret, some varieties of the Jay, and some interesting Rails and Ducks being among the most notable.

45. *Saunders's 'Manual of British Birds.'*

[An Illustrated Manual of British Birds. Second Edition, revised. By Howard Saunders. Parts I.–V. 8vo. London.]

The issue of a revised and augmented edition was commenced last November. The additional articles published are on *Sylvia subalpina*, *Phylloscopus proregulus*, *P. viridanus*, and *Hypolais polyglotta*; while new illustrations are given of *Phylloscopus superciliosus*, *Hypolais icterina*, *Acrocephalus streperus*, *A. palustris*, and *Anthus cervinus*. Part V. nearly completes the Finches.

46. *Schalow on the Avifauna of Antarctis.*

[Ueber die Vogelfauna des Südpolargebietes. Vortrag gehalten am 29. Mai 1897 zu Dresden. Von Herman Schalow. J. f. O. 1897, p. 524.]

This is an interesting disquisition on the birds of the South Polar Continent (so far as they are yet known to us), and contains many useful pieces of collateral information gathered from all sides. Herr Schalow counts 20 species of birds hitherto recognized as belonging to the avifauna of Antarctis—a result which does not differ materially from that lately arrived at by Sclater (Ibis, 1894, p. 494). Of these only three seem, so far as we know, to be absolutely restricted to Antarctis, namely, *Stercorarius maccormicki, Aptenodytes forsteri,* and *Pygoscelis adeliæ.*

47. *Schalow on the Avifauna of Juan Fernandez.*

[Ueber die Vogelfauna von Juan Fernandez. Von Herman Schalow. Sitzungsb. Gesell. naturf. Freunde Berlin, 1897, no. 5.]

Herr Schalow takes the occasion of receiving some specimens obtained by Prof. Plate on Juan Fernandez to review what is known of the ornis of that island (Mas-á-tierra) and its adjacent satellite, Mas-á-fuera (*cf.* Sclater, Ibis, 1871, p. 178, and Salvin, Ibis, 1875, p. 370). Twenty species of birds are now known from these two islands. Two of these are found only on Mas-á-tierra, and three are restricted to Mas-á-fuera. The remainder are species of the Patagonian subregion.

48. *Schönland on the Nesting of a South-African Hornbill.*

[Nesting-habits of *Tockus melanoleucus* Licht. By Dr. S. Schönland. Trans. S. African Phil. Soc. ix. p. 1.]

Dr. Schönland gives many further and more exact details than have been previously published upon the singular nesting-habits of the Pied Hornbill of South Africa (*Toccus melanoleucus*). This bird is common in the gardens of Grahamstown during the winter, and in summer resorts to the "wooded kloofs" in the neighbouring country to breed. Dr. Schönland has been able to examine seven nests during the past few years, and gives diagrams of two varieties of nests observed. His opinion is that the female has more to do than the male with plastering up the entrance, which is always reduced to a small chink.

49. *Seebohm's 'Monograph of the Thrushes.'*

[A Monograph of the Turdidæ, or Family of Thrushes. By the late Henry Seebohm. Edited and completed (after the Author's death) by R. Bowdler Sharpe, LL.D., F.L.S., &c. Part I. Imperial 4to. London: Henry Sotheran & Co., 1898.]

We are much pleased to have before us the first part of the long-expected 'Monograph of the Thrushes,' upon the preparation of which our late friend and colleague Henry Seebohm was engaged for many years, but which was unfortunately left unfinished at the time of his decease. Messrs. Henry Sotheran & Co., having acquired the whole stock of the work, have "secured the co-operation of Mr. Seebohm's old friend, Dr. Bowdler Sharpe," "to superintend the publication of the work on the lines indicated by the author." The plates were all drawn by Keulemans under Seebohm's eyes, and those now before us are examples of that artist's well-known talents. The work will be issued in twelve parts in imperial quarto, at intervals of two months.

The following species are figured in the first part:—*Geocichla varia, G. hancii, G. dauma, G. parvirostris, G. nilgiriensis, G. imbricata, G. horsfieldi, G. heinii, G. papuensis, G. cuneata, G. lunulata, G. macrorhyncha, G. dixoni, G. mollissima, G. spiloptera, G. princii, G. guttata, G. gurneyi, G. crossleyi.*

50. *Vilaró on Hybrids in Poultry.*

[Hybrids between the Game-cock and the Guinea-fowl. By Juan Vilaró, M.D. Bull. Amer. Mus. Nat. Hist. ix. p. 225, 1897.]

The pugnacity of the Game-cock is notorious, while those persons who have kept Guinea-fowls are aware that both male and female members of the genus *Numida* are of a quarrelsome and aggressive disposition. Of four hybrids (in which the father was the Game-cock), three were males, but had no spurs, while the fourth was a female; and all of them were so outrageously vicious—the hen being the worst—that they had to be destroyed. The cocks did not crow, but emitted a feeble chirping. The plumages are described in detail, and two photogravures are given; mention is also made of two more hybrids which were sent alive to Dr. Vilaró.

51. *Wright and Coues on North-American Birds.*

[Citizen Bird: Scenes from Bird-life in plain English for Beginners. By Mabel Osgood Wright and Elliott Coues. With one hundred and eleven illustrations by Louis Agassiz Fuertes. 8vo. New York & London, 1897.]

Dr. Roy Hunter, the chief personage in this book, is a modern Mr. Barlow, who leads his Sandford, Merton, & Co. into the wilderness of the Eastern States and discourses to them of the common birds to be found therein. After convenient pauses for taking breath, the children play the well-known part of the ancient chorus and start the Doctor off again, with questions or remarks which are either preternaturally shrewd or simply idiotic. But beneath this unnecessarily irritating introductory matter there is a fund of admirable and accurate information, while many of the illustrations are beautiful.

XXVII.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sir,—All Ducks, Geese, and Swans, so far as I know, moult all their flight-feathers at once, so that they are for a time unable to fly. But the Semipalmated Goose of Australia (*Anseranas melanoleuca*), of which I have kept specimens in confinement for several years, does not share in the peculiar moult of the Anatidæ.

My birds, which are under constant observation, drop their flight-feathers gradually, so that they never lose their power of flight. They are also very arboreal in their habits. A pair which I keep in a tolerably large aviary can constantly be seen flying from perch to perch, and spend the nights and the greater part of the day, when not feeding, on perches. They are extremely fond of mud, and may be seen wading through it knee-deep, searching in it diligently with their bills, much as Waders do. They have a strong musk-like smell, which they chiefly emit when flying, and which remains in the air for a while, so that, if one crosses the space through which they have been flying, the smell is distinctly noticeable.

Anseranas is, no doubt, a very aberrant form of the Anatidæ.

I am,
Yours, &c.,
F. E. Blaauw.

Gooilust, s'Graveland, Noord Holland,
November, 1897.

Sirs,—I am experimenting in breeding wild species of Pigeons. The wild Rock-Dove I have thus far failed to get, and I understand that they are obtained with difficulty, if at all. Can you tell me what the chances are? For any assistance or advice I shall be very greatly obliged.

You may be interested to know that I have a flock of 20 Passenger-Pigeons (*Ectopistes*), and have raised five young ones this season. I have six hybrids between a male *Ectopistes* and a female *Turtur risorius*. I am now getting some very fine hybrids between the Common Dove-house Pigeon and the Japanese Turtle-Dove.

Yours, &c.,
C. O. Whitman.

The University of Chicago,
December 13th, 1897.

Sirs,—Having so recently ('Journal of the Asiatic Society of Bengal,' vol. lxvi. pt. ii. 1897, p. 523) pointed out, and in part illustrated, certain differences between a Manipur specimen of *Phasianus* (or *Calophasis*) *humiæ* and a Burmese bird referred by Mr. W. L. Sclater (Ibis, 1891, p. 152) and myself to that species, I was much interested in seeing in 'The Ibis' (January, 1898, p. 124) Mr. E. W. Oates's assignation of specific rank to Burmese specimens of this form of Pheasant, which he also had previously considered identical with Mr. Hume's bird.

On re-examining the two birds alluded to in my paper quoted above, I find that there is every reason to consider this earlier identification of the Burmese birds as correct; for of all the points of difference enumerated in tabular form by Mr. Oates in 'The Ibis,' none but the first hold good when applied to these specimens. And as our Burmese bird shows apparently broader edgings of white to the rump and back-feathers than do the specimens examined by Mr. Oates, this point also would appear to be variable; indeed, when looking over the series of this form of Pheasant in the British Museum during my visit to England last year, I came to the conclusion that the variation in this point was sufficient to justify me in having refrained from giving specific rank to the Burmese specimen in the Indian Museum.

Other differences which I pointed out between our Manipur *P. humiæ* and this specimen are not noticed by Mr. Oates, so that I presume he found them not borne out by the British Museum series; and therefore, in view of all this variation in so few examples of this Pheasant as appear to have been examined by naturalists, I think that the claims of *Calophasis burmannicus* to rank as a species must be regarded as "not proven."

Yours, &c.,

Frank Finn.

Indian Museum, Calcutta,
February 10th, 1898.

Sirs,—In Mr. W. Eagle Clarke's paper on birds from the island of Negros, in the last number of 'The Ibis' (p. 120), he speaks of *Hypothymis azurea* (Bodd.) in the following terms:—"A male of the Black-naped Flycatcher without the black crescentic bar across the fore neck, and agreeing with *H. ceylonensis* Holdsworth: a species which Mr. Oates (Birds Brit. India, ii. pp. 49, 50) does not uphold, by reason of the black bar not being a constant character." Perhaps it may save trouble to some interested in the species if I say that I do not recognize *H. ceylonensis* as any child of mine. On reference to Legge's 'Birds of Ceylon,' p. 408, I find it stated that "Mr. Sharpe has separated the Ceylon Azure Flycatcher from its Indian relative (*H. azurea*) on account of the absence of the black throat-bar and its much smaller nape-patch." The species found in Ceylon was given in my Catalogue (P. Z. S. 1872) under the old name of *Myiagra azurea* (Bodd.).

Yours, &c.,
E. W. H. Holdsworth.

Dartmouth,
February 11th, 1898.

Sirs,—The little Sparrow-Hawk which, in Bulletin B.O.C. no. l. p. xxvii, receives the name of *Astur* (*Scelospizias*) *butleri* (G.), if it was to be differentiated from *A. poliopsis* (Hume), ought certainly, as I now fully admit, to have been described and named by Mr. Rothschild and Mr. Ernst Hartert. Until January 26th I had no idea that I was trespassing on the preserves of the Tring Museum, and that the principal part of Mr. Butler's Nicobar collection was, in fact, Mr. Rothschild's property. I wish to apologize to these gentlemen for an inadvertence which I regret, the more so as I understand they would willingly have bestowed the same name upon the Hawk in question if satisfied of its distinctness. I am also much indebted to them, inasmuch as Mr. Rothschild has generously ceded two specimens of this valuable bird to the Norwich Museum, where it will be duly honoured in the Raptorial collection.

Yours, &c.,
J. H. Gurney.

Keswick Hall, Norwich,
February 7th, 1898.

Sirs,—Padre Ernesto Schmitz, of Madeira, has recently drawn my attention to the name *Thalassidroma castro*, given by Harcourt in 1851 to the small square-tailed Petrel generally known as *Oceanodroma cryptoleucura* (Ridgway).

Harcourt's description, which is sufficiently full and clear, can apply only to the above species.

The name *T. castro* has been hitherto overlooked; but, on calling Mr. Salvin's attention to the matter, he at once agreed that this name must be used for the species, which should in future be known as *Oceanodroma castro* (Harcourt). The synonymy should therefore stand as follows:—

Thalassidroma castro Harcourt, 'A Sketch of Madeira,' p. 123 and p. 166 (1851); id. Ann. Mag. N. H. (2) xv. p. 436 (1855) [Desertas Islands, near Madeira].

Cymochorea cryptoleucura Ridgway, Proc. U.S. Nat. Mus. iv. p. 337 (1882).

Oceanodroma cryptoleucura Grant, Ibis, 1896, p. 53 (Salvage Islands; Porto Santo); Salvin, Cat. B. Brit. Mus. xxv. p. 350 (1896).

Yours, &c.,
W. R. Ogilvie Grant.

Nat. Hist. Museum, S.W.,
14th March, 1898.

The Nocturnal Migration of Birds.—It is to be desired that some of our British ornithologists should take up in this country the system of observing the nocturnal migration of birds that has for some years been so successfully followed in America. The mode of doing this, and the general results that have been yet obtained, have lately been described by Mr. Frank M. Chapman in a letter published in 'Science'*, to which we wish to call the special attention of those interested in the subject. If, during the migratory period, a comparatively low-power glass be focussed on the full moon, it is probable that a stream of migrants will be seen passing through the narrow angle subtended by the moon's limb. Thus, as has been described in 'The Auk' (vol. v. p. 37), at Tenafly, New Jersey, on the night of Sept. 3rd, 1887, Messrs. F. M. Chapman and J. Tatlock, Jr., using a 6½-inch equatorial, saw no less than 262 birds cross the moon's disk between the hours of eight and eleven. The vast majority of them were, of course, unrecognizable; but in some few cases the peculiarities of these nocturnal wanderers were so marked and so plainly shown that the observers thought themselves able to identify them.

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* "Meteor or Bird?" By Frank M. Chapman 'Science,' n. s. vol. iv. no. 88, Sept. 4th, 1897.

The distance from the observer of the birds that cross the moon's disk not being known, the problem of computing the height at which they fly is not accurately determinable. But assuming, as may be reasonably done, that the crossing birds are at least one mile distant, and, in all probability, not more than five miles, the approximate height at which they travel may be calculated within certain limits. Of these heights Mr. Chapman has given us a table, showing that they vary from 600 to 15,100 feet in different cases. But further observations are required on this subject before much reliance can be placed on the results thus obtained. The number of the birds passing the field of view in a given time is also a subject of great importance upon which further information is wanted. On the whole it may be confidently stated that here is a practical scheme for obtaining much fresh information on the interesting subject of migration open to any one to whom the use of a good telescope at the migratory period is available.

Winter-birds in Spitsbergen.—It appears from Mr. Arnold Pike's diary, lately published in Mr. Abel Chapman's 'Wild Norway,' that even in Spitsbergen, where the sun does not rise above the horizon for nearly four months, individuals of at least four species of birds are found throughout this season. Mr. Pike, who passed the winter of 1888–89 in Dane's Gat, near Amsterdam Island (79° N. lat.), states that he saw "Tysties" on January 11th, and heard Eiders and Guillemots "crying and diving close inshore." On February 10th "Ryper's" droppings were observed. The Spitsbergen Grouse, Mr. Pike says, make long burrows in the snow, and thus reach the autumnal crop of berries and seeds stored up beneath its surface. We may therefore put down four species of birds as remaining in Spitsbergen throughout the winter:—*Lagopus hemileucurus, Uria mandti, Uria bruennichi,* and *Somateria mollissima.* To these, perhaps, the Fulmar (*Fulmarus glacialis*) should be added; at any rate, it was observed on February 20th, the day on which the sun was first seen at noon.

New Work on the Structure of Birds.—Mr. Beddard's work on the Anatomy, Osteology, and Pterylography of Birds, on which he has been engaged for several years, is now in the printer's hands, and is expected to be ready for publication in the course of the summer. It embraces not only his own observations, but many of the results arrived at by Garrod and Forbes—his predecessors in the Prosectorship of the Zoological Society of London, who both devoted much time and attention to this subject. Messrs. Longmans are the publishers of the work.

The Collection of Birds'-eggs at the British Museum.—We are pleased to be able to announce that Mr. Eugene W. Oates has undertaken to complete the arrangement of the eggs in the Collection of the British Museum and to prepare a catalogue of them, and has already commenced the work. The late Mr. Seebohm devoted much time and attention to this enormous collection, which was brought into working-order under his superintendence, but he did not live to complete the task. A valuable addition is the collection of Chilian eggs belonging to the late Mr. H. Berkeley James, which has been recently presented to the British Museum by Mrs. James.

International Ornithological Exhibition.—We are requested by the Foreign Office to inform the Members of the British Ornithologists' Union that an International Ornithological Exhibition will be held at St. Petersburg in the course of the current year. Programmes of the Exhibition will be published in the Monthly Journal of the Board of Trade as soon as they are received.

Publications relating to British Birds.—Mr. W. Ruskin Butterfield requests us to state that he has been intrusted by Dr. Elliott Coues with the completion of the 'List of Faunal Publications relating to British Birds.' (See Proc. U.S. Nat. Mus. ii. pp. 359–477.)

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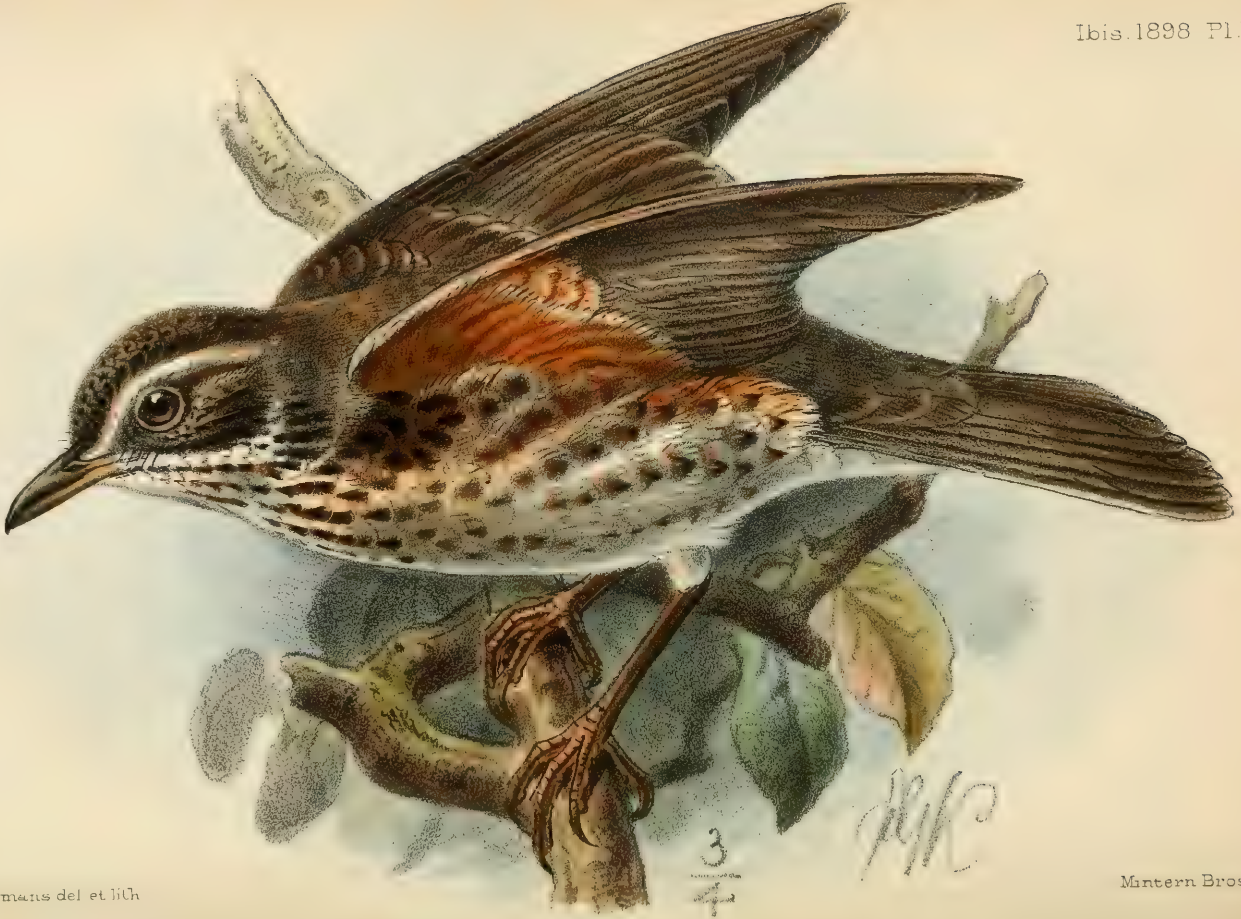

J.G. Keulemans del et lith

Mintern Bros imp.

TURDUS ILIACUS × TURDUS PILARIS.

THE IBIS.

SEVENTH SERIES.

No. XV. JULY 1898.

XXVIII.—*On a Hybrid Thrush found in Norway* (Turdus iliacus × Turdus pilaris). By R. Collett.

(Plate VII.)

In December last I obtained a newly-caught specimen of a Thrush, which in size and plumage appears to be intermediate between *Turdus iliacus* and *Turdus pilaris*, and which I believe to be a hybrid between these two species.

The specimen was snared in Faaberg, Norway, the southernmost district of Gudbranddalen, on the 11th December 1897, together with some examples of *T. pilaris*. Its stomach contained only berries of the mountain-ash (*Sorbus aucuparia*). In Faaberg a great portion of the sides of the valleys extends into the subalpine region, and both *T. iliacus* and *T. pilaris* commonly breed there. In most of the colonies of the far more numerous *T. pilaris* one or more pairs of *T. iliacus* will be found.

The hybrid specimen, which was quite fresh and uninjured when it came into my hands, was of the following dimensions:—Total length, 253 millim.; length of wing, 131; length of tail, 89. In size it was thus about halfway between the dimensions of its supposed parents. (Six unskinned specimens of *T. iliacus* measured, on an average, in total length 221 millim., eight of *Turdus pilaris* 275 millim.)

The generative organs of the hybrid were quite rudimentary, and the sex could not be determined with absolute certainty. I may remark that on various occasions I have dissected about forty specimens of hybrid Grouse, and in none of these have I found the sexual organs so indistinct as in this bird.

In almost all details the plumage of the hybrid was somewhat between the plumages of its supposed parents, and it is not easy to determine which of them it most resembles. Possibly the upper parts are most like those of *T. pilaris*, and the lower parts those of *T. iliacus*. There is a broad buffy-white line over the eye, nearly like that of *T. iliacus*. The back is brown, but not quite of such a chestnut-brown as that of *T. pilaris*. The head and neck are inconsiderably lighter, and the rump olive-grey, a trifle darker than in *T. pilaris*, but perceptibly lighter than the back. The chin is almost unspotted, whitish with a buffish tint; the spots on the breast are black and arrow-headed, not very like those of either parent. The sides are reddish grey, the spots somewhat ill-defined at their edges (not so much as in *T. iliacus*); their colour is reddish grey in the middle, with rather lighter edges, but with an indication of assuming the triangular form, as in *T. pilaris*. The under tail-coverts are whitish in their outer portions and reddish grey at their roots. The tail is blackish, with broad greyish-brown margins. The upper surface of the wings is most like that of *T. pilaris*, but the second primary is of the same length as the fifth. The under wing-coverts are reddish, but not so dark or uniformly coloured as in *T. iliacus*. The longest are lighter towards the tip, and the innermost are reddish grey at the tips, but whitish at the base; the feet are of a dark yellowish grey. The bill is blackish, the lower mandible horn-colour at the base.

The diagnosis of this hybrid will therefore be as follows:—Size halfway between those of *T. pilaris* and *T. iliacus*. Eye-stripe broad, of a buffy white. Upper parts most like those of *T. pilaris*. Rump greyish brown, somewhat lighter than the back. Lower parts most like those of *T. iliacus*; the side-spots somewhat triangular. Under wing-coverts rusty red mixed with pale red.

One specimen of the same hybrid has been previously procured in Sweden. On the 12th February, 1859, a Thrush was caught at Haga, near Stockholm, which, during the course of the following year, was described by Meves* as *Turdus illuminus* Löbenstein†.

This specimen is still preserved in the Riks Museum, Stockholm. Through the courtesy of Prof. Smitt, I have just been enabled to make a direct comparison between it and the present specimen from Gudbranddalen, and there can be no doubt that they are identical. They are of the same size. According to Meves, the Stockholm specimen measured:—Total length, 255 millim.; length of wing, 127; length of tail, 89.

The lower parts of the Swedish specimen, including the under wing-coverts, resemble the Norwegian bird, even to the smallest details. The upper parts of the Swedish bird are a trifle darker brown than in the Norwegian specimen.

Christiania, Feb. 15th, 1898.

XXIX.—*The Birds of a Bangkok Garden.*

By S. S. Flower, F.Z.S., Royal Siamese Museum.

The Wang Na, the old palace of the second King of Siam, occupies a large piece of ground in the inner city of Bangkok. This was once a place of great pomp and magnificence; to-day its glories have departed. No longer a potentate holds court "with a standing of white elephants on the right side, and of white horses on the left," but weeds grow in profusion where they will, bats and owls occupy the ruined buildings, the long rows of barrack-rooms are empty, and the cannon lie on the ground amid the mouldering remains of their carriages. During last year the outer walls have been demolished, and the Wang Na has thus been greatly reduced in area, but the inner walls, though threatened, still remain. Within them is a delightful old garden, surrounding two buildings, once the Audience Hall and private Wat (temple) of the old Second King, now the Royal Siamese Museum. Here an old house, forming part of the walls of this inner compound, has for a year been my home: a place of almost idyllic quietude, separated from the noise and troubles of the outside world by high though crumbling walls and by great iron-studded gates of teak. Here, in the heart of the great town, is a paradise for birds, as no gun is allowed to be fired within the walls, there is food in plenty, and cats are not encouraged. The following species of birds have been noted as resorting to it:—

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* Öfv. Kgl. Vet.-Akad. Förh. Årg. 17, No. 4, p. 202 (Stockh. 1861); The Ibis,' 1862, p. 182.

† 'Naumannia,' Bd. ii. p. 80 (Stuttgart, 1852).

1. Corvus macrorhynchus Wagler.

The Black Crows are the most noticeable Bangkok birds, and the Wang Na seems to be their headquarters. All day long they are busy acting as scavengers in the city, in the town without the walls, and among the shipping on the river, but towards sunset they come flying home from all directions and settle on the roofs in hundreds. One week the roof of one building is their favourite resort, and as many Crows as can find standing-room perch along the ridge, while others fly round trying to find room; next week sometimes the fashion has changed, and another roof is crowded while the old one is deserted. Till well after the sun is set they keep up a tremendous clamour, as if each bird was recounting its exploits of the past day, quite regardless of the fact that every other bird is doing the same and none listening. Then when it becomes dark they leave the roofs and settle in some big trees where they pass the night, and the noise gradually subsides. On moonlight nights they continue talking much later than on dark nights, and any unusual noise wakes them, when they fly out, making a sudden rushing sound with their wings that has been mistaken more than once for the sound of one of the old buildings falling down (an event that sometimes happens during the rains). When, in June 1897, part of the King's palace was burnt down, the first news I had of it was from the Crows, the sudden cawing of which in the middle of the night induced me to get up to find the cause, before either the fire-bugles sounded or the alarm-guns were discharged.

Hot weather, rain, and cold weather seem to make no difference to them; they are always lively, happy-looking, inquisitive, and busy. Unfortunately they are very destructive and of iconoclastic tendencies; the old carvings in the Wang Na above the gateways and on gable-ends suffer greatly. The Crows break off projections of plaster or wood, and particularly delight in picking out the bits of glass which are inlaid in the ornamental exterior woodwork of these Siamese buildings; but to the roofs they do most material damage, pulling out the tiles, apparently in order to hear them clatter and break on the flagstones below. It is most amusing to watch a party of three or four Crows and see what pains they take about their self-imposed work of demolition. In the estimates of the Royal Siamese Museum for next year a special sum has to be inserted for repairing damage done by the Crows.

The first morning we occupied our house we threw out food for the birds, and a flock of Crows came to get what they could of it; but next morning one pair kept all the rest away, and since then for more than a year these two Crows have, as it were, taken the house under their protection, and no other Crow is ever suffered by them to come for food or even to settle within biscuit-throw of the windows. They, on their part, never wander far away, and though they may not be visible, yet whenever we call them they soon come flying up. Though they are only fed at mealtimes, they occasionally come to the windows at other times, evidently not expecting food, but as if for good fellowship and to see that all is going well. It is curious why these two particular birds should have decided to make me their friend. They will sometimes, when I am returning home from a walk, welcome me before I reach the house, and when I have been going out one has flown as far as the gate and perched there, cawing, as much as to say "good-bye." That they recognize individuals there is no doubt, treating my wife and myself with confidence, but distrusting the servants and strangers.

They nested last spring in a big tree on the lawn in front of the house, and as soon as their two young birds could fly the old pair brought them over and we threw them food. This went on till the young ones could quite look after themselves, when the parents one day drove them off and they never returned. After absences of six and eight weeks respectively, during which the house was shut up, the very first morning we were back the pair of Crows were at the window as usual. The old birds were beginning to collect pieces of wood for nest-building as early as the 5th of January; the young birds were flying about by the last week in April.

2. Pycnonotus sp. inc.

A brown inconspicuous Bulbul, which frequents the thickest-leaved trees and is very shy.

3. Dicrurus sp. inc.

A King-Crow is sometimes seen in the garden, but whether it is *D. ater* or *D. annectens* I am not certain.

4. Dissemurus paradiseus (Linn.).

The Racket-tailed King-Crows, though so common in the country, are unfortunately rare visitors in our compound, as they are the finest songsters we have. We notice them occasionally in May and June. They well deserve the name of "King-Crow," for one of them will chase an unfortunate Crow about the garden for a long time. Why the Crows let themselves be harried and bullied by these comparatively little birds I cannot imagine.

5. Orthotomus sutorius (Forst.).

The Tailor-bird lives all the year round in the Wang Na, and is one of our commonest birds, graceful in its movements and uttering a loud cheerful chirping.

6. Oriolus sp. inc.

A Golden Oriole has twice been seen and heard in the garden, once in January and once in November.

7. Gracupica nigricollis (Payk.).

The Black-necked Mynah can be seen here all the year round in greater numbers than any other bird, except the Crows and Sparrows. They spend most of their time walking in small parties on the grass-lawns in search of food, and are very tame. Their handsome plumage generally attracts the attention of visitors, and we have few better songsters. They sing both when on the ground and when perched on the branch of a tree, and make a great parade when singing, puffing out the chest and opening the mouth very wide. The young birds made their appearance on the lawns with their parents in the first week in July; their brownish heads and necks give them a very different appearance from the old birds. Both this and the next species make amusing and cheerful pets, and thrive in a cage.

8. Æthiopsar grandis (Moore).

The Siamese Mynah is also a regular inhabitant of the Wang Na. The crest of black feathers above the yellow bill, their glossy black plumage, cheerful notes, and lively ways make them very attractive birds to have about the garden. They also must do good in catching and eating a large number of insects—even a passing mosquito they will snap up; but worms, bits of meat, crumbs, fruit, and rice also form part of their food. When a party of Crows are feeding it is amusing to see these cheeky little birds trying to join in and getting repeatedly chased away by the Crows.

9. Copsychus saularis (Linn.).

The Magpie-Robin is another of our best songsters and one of our commonest birds. It is very tame and not unfrequently enters the house.

10. Munia atricapilla (Vieill.).

On the 11th of June I saw a solitary Finch, I believe of this species, in our garden.

11. Passer montanus (Linn.).

The Tree-Sparrow is the commonest bird in Bangkok; it has the habits of *P. domesticus* of Europe, but is even bolder. At every meal during daylight these birds enter the dining-room and hop about on the lookout for food, perching on the sideboard and even on the chairs.

12. Hirundo sp. inc.

A Swallow resembling our *H. rustica* is sometimes seen on the wing; I find it mentioned in my diary for the months of January, February, August, November, and December.

13. Motacilla sp. inc.

A Pied Wagtail is common about the lawns of the Wang Na in December and January.

14. Anthus sp. inc.

A Pipit is another winter visitor, and is to be seen on the grass-lawns in company with the Wagtail, but it stays with us longer. I have observed it from the 30th October to February.

15. Arachnechthra flammaxillaris (Blyth).

This beautiful Sun-bird is common in a row of trees just outside our house, and can easily be watched from the open upstairs windows within the distance of a few feet. Oates, in the 'Fauna of British India, Birds' (vol. ii. p. 343), says of the Nectariniidæ that "they are unable to poise themselves in the air, after the manner of Humming-birds, except on rare occasions, and then only for a very brief interval"; but I have repeatedly noticed this species thus poised in one spot with rapidly-vibrating wings, and although they never remain so for long, still it is a characteristic attitude of the bird. Their voice, though very shrill, is pretty. Young birds just able to fly were first noticed on the 14th of August.

16. Dicæum cruentatum (Linn.).

The Scarlet-backed Flowerpecker lives in the same trees as the Sun-bird, though it is not so often seen. It has the same habit of hovering or poising itself in the air. It is most fascinating to watch examples of these two lovely species playing about in the same branches, the throat of the cock Sun-bird showing wonderful metallic shades of blue and purple, while the cock Flowerpecker's plumage is brilliant with crimson and black. The Tailor-bird is often with them, the three together forming as delightful a trio of elegant little birds as can be imagined.

17. DENDROCOPUS PECTORALIS (Blyth).

This Pied Woodpecker is common in Bangkok. I have noticed it not only in the Wang Na, but also in some of the old temple-enclosures busily examining the more or less rotten ornamental woodwork surmounting the buildings. It also comes to the trees by our windows, and will spend a long time on their trunks in search of food. When thus engaged it sits with tail strongly pressed to the wood, legs spread out almost at *right angles* to the body, and the head thrown well back to gain impetus for pecking.

18. XANTHOLÆMA HÆMATOCEPHALA (P. L. S. Müll.).

The "Coppersmith," as I write, is keeping up its incessant monotonous call of "pook, pook, pook, pook, pook, pook," which is one of the commonest sounds to be heard in the Wang Na. It selects the top of the tallest trees to sit in, and it is wonderful how long it can keep up its noise, as the jerking of its head at each "pook" seems a great effort to the little bird.

19. CORACIAS AFFINIS McClelland.

The Burmese Roller is one of the few birds here which most Europeans have a name for, calling it the "Blue Jay," although I have more than once been told, "Of course it is really a Kingfisher, you know." Two or three of these birds live in our garden, and have their regular posts of observation on the corner of a deserted building or a projecting branch of a tree. Sometimes they assemble in one of the trees by the house, and make a tremendous noise screaming and chattering to each other. I have noticed a Roller and a Drongo (*Dicrurus*) both trying to catch the same butterfly in the air.

20. EUDYNAMIS HONORATA (Linn.).

I have not yet seen a Koel in the Wang Na, but several times have heard its well-known cry. It is a common bird in the country districts round Bangkok.

21. STRIX FLAMMEA Linn.

The Barn-Owl is very numerous here; one cannot walk out at twilight without noticing one or more either flying silently by or else perched on some old carved pinnacle, looking very picturesque in silhouette against the afterglow. An evening sketch of the Royal Siamese Museum would hardly be complete without having at least one finial surmounted by an Owl. In our house these Owls are a decided nuisance; night after night they will come into the rooms and perch on the punkahs and furniture. I have several times, on awaking, found an Owl perched on the frame of my bed. Besides being dirty, they are a source of possible danger from fire, and some evenings we have had to extinguish the paraffin-lamp, as an Owl would make repeated dashes at the light and might at any moment overturn it. In London it is difficult to imagine this sort of thing, and other results of the animals that share one's rooms here; for instance, having to put the pictures straight which the long geckoes running on the walls have pushed askew. When an Owl happens to be abroad during the day it has a very bad reception from the Crows. We have observed this several times. One afternoon in April a Barn-Owl flew across the compound, pursued by four Crows; it flew into our house with such force that it killed itself by dashing against the opposite wall.

22. SCOPS BAKKAMÆNA (Pennant).

The Collared Scops-Owl also lives in our garden, and sometimes comes into the house in the evening. They are pretty little birds, and we have generally seen two together, sitting close side by side, on the branch of a tree. They make a noise like very loud snoring, and an incident that came to my notice illustrates how much it sounds like the snore of a human being in uneasy slumber. A new arrival in Bangkok told me how he had been annoyed by some man sleeping just outside his window who would snore horribly, and when he told his Chinese servant to wake the disturber, the " boy " insisted " that all same belong one bird," which incensed him further, till I told him the " boy " was right.

23. VULTUR sp. inc.

A Vulture was seen perched on one of the museum roofs one afternoon in February. This is the only time we have seen one in the Wang Na.

24. HALIASTUR INDUS (Bodd.).
25. MILVUS GOVINDA Sykes.

These two Kites, though both numerous along the river and canals of Bangkok, never enter the garden. Although they are occasionally seen flying overhead, I have not once seen one settle on a building or tree in the Wang Na. When there has been much meat about, as, for instance, when skinning a rhinoceros or bear, I have been surprised that no Kites (nor Vultures) should have come down for a share, as they would in an Indian city. Here the Crows have the whole of the scraps to themselves.

26. TINNUNCULUS sp. inc.

A Hawk, apparently a Kestrel, frequented the garden for a few days at the end of October and beginning of November.

27. TURTUR sp. inc.

A Dove occasionally visits certain trees, but is very shy, keeping itself hidden among the foliage.

28. During the winter months, generally towards evening, we have seen parties of White Egrets flying high overhead.

XXX.—*Further Observations on the Birds of the Province of Fohkien, China* *. By C. B. Rickett and J. D. D. La Touche. *With Notes by* W. R. Ogilvie Grant.

[Messrs. Rickett and La Touche send me for communication to 'The Ibis' the following further observations on the birds of Fohkien, to which they have paid so much attention. I have added a few necessary notes.—W. R. O. G.]

1. Chelidon cashmeriensis Gould; Sharpe, Cat. B. Brit. Mus. x. p. 90 (1885).

[A female of this species was shot at Kuatun on the 13th of April. This is apparently the first time it has been procured in China.—W. R. O. G.]

2. Acrocephalus agricola (Jerdon); Seebohm, Cat. B. Brit. Mus. v. p. 105 (1881).]

[I have received an adult male and female of this Reed-Warbler obtained at Kuatun on the 19th of May, 1897. They have the upper parts of the darker brown characteristic of the worn plumage in the breeding-season. In freshly-moulted examples the upper parts are often of a warm rufous brown, but as the feathers become abraded the rufous tinge disappears.—W. R. O. G.]

3. Cettia brunnescens (Hume).

Horeites brunnescens Hume, Ibis, 1872, p. 109.

Cettia sp. Grant, Ibis, 1897, pp. 601, 608.

[Messrs. Rickett and La Touche forward four more examples of this bird, which appear to be identical with Indian examples of *C. brunnescens,* though the yellow on the underparts extends a little further up the belly and sides.—W. R. O. G.]

4. Cettia sinensis La Touche, Bull. B. O. C. vii. p. xxxvii (1898).

Cettia fortipes La Touche, Ibis, 1892, p. 417 (Swatow?);

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* For former papers on this subject see Ibis, 1892, pp. 400–430, 477–503; 1894, pp. 215–226; 1896, pp. 489–495; 1897, pp. 169–176, pl. iv., pp. 600–610.

Rickett & La Touche (nec Hodgs.), Ibis, 1897, p. 602 [Ching Feng Ling].

Most nearly allied to *C. fortipes* (Hodgs.), and resembles that species in having the upper plumage tinged with rufous. The throat, fore-neck, middle of the chest and breast nearly white; axillaries and under wing-coverts white, with the faintest tinge of yellow; sides, flanks, and vent snuff-brown; no tinge of fulvous on the middle of the belly; fifth and sixth primaries longest, slightly longer than the fourth and seventh.

	Wing. inches.	Tail. inches.
Three males	1·95–2·2	1·85–2·05
One female..............	2·0	1·7

Specimens were obtained at Foochow in November and at Kuatun in April.

5. Phylloscopus trochiloides (Sundev.); Seebohm, Cat. B. Brit. Mus. v. p. 51 (1881).

[Three examples sent as *P. occipitalis* are certainly referable to the above-named species (= *Phyllopneuste reguloides* Blyth). They have the upper parts of the darker green characteristic of *P. trochiloides*, the hinder part of the crown and nape darker, and the wing shorter (2·25–2·35 in.). In all three the second primary is exactly equal to the eighth. According to Oates (see 'Faun. Brit. Ind., Birds,' i. p. 418), *P. occipitalis* has the second primary usually intermediate in length between the seventh and eighth, while in *P. trochiloides* it is intermediate between the eighth and ninth or the ninth and tenth, or even equal to the first secondary. This character alone cannot be relied on to distinguish the two forms.—W. R. O. G.]

6. Suthora verreauxi Sharpe; Cat. B. Brit. Mus. vii. p. 488 (1883).

Suthora gularis Verr. (nec Gray), N. Arch. Mus. viii. pl. iii. fig. 1 (1872).

[This species is not represented in the British Museum. A female example obtained at Kuatun on April 9th is no doubt referable to it, and agrees well with the figure given by Verreaux and cited above. David met with the species in Western Szechuen and at Moupin.—W. R. O. G.]

7. MACHLOLOPHUS REX A. David; Gadow, Cat. B. Brit. Mus. viii. p. 367 (1883).

♂ *jr.* General plumage much as in the adult male, but everywhere duller. The back is dark grey tinged with green, and there is more black on the upper back than in the adult bird; the scapular feathers are dull green at their extremity; the white on the upper wing-coverts is mostly tinged with yellow; the tertiaries are fringed on the outer web with green; the primaries (partly grown) show no trace of the white patch which in adults appears just beyond the wing-coverts; the median black of the underparts is only just indicated, and the rest of the under plumage is of a dingy light greenish mixed with dull grey.

♀ *jr.* Like the adult female, but paler and duller all over; the white on the wings is more tinged with yellow; third to seventh primaries edged with yellowish grey below the emargination, rest of quills edged with green.

Six nestlings and an addled egg were taken by our collectors out of a hole in a tree in May 1896.

8. PTERUTHIUS ÆRILATUS Tickell; Gadow, Cat. B. Brit. Mus. viii. p. 114 (1883).

♂ *jr.* Crown greenish grey, with here and there a few black feathers; a broad white eyebrow from above the eye to the nape; lores light greenish grey; ear-coverts grey; a broad whitish stripe from the base of the lower mandible down the sides of the neck; hind-neck and upper back like the head; back olive-green; rump and upper tail-coverts grey mixed with a little green; scapulars similar, but some of the feathers nearest the wing with some black on the outer webs; wings, tail, and underparts as in adult male. Culmen 0″·55, wing 3″·3, tail 2″·7, tarsus 1″·05.

Two adult males and two young males were shot at Kuatun in September 1896, and a series of adult males and females was obtained during the spring of 1897. Only two males show black ear-coverts, and the terminal spots on the outermost secondaries are variable in size.

9. Elachura punctata (Blyth); Oates, Faun. Brit. Ind., Birds, i. p. 339 (1889).

Anorthura formosa (Walden); Sharpe, Cat. B. Brit. Mus. vi. p. 279 (1881).

[This beautiful Spotted Wren, which had hitherto only been met with in Sikhim, has now been procured at Kuatun, where a fine male example was collected on the 27th April. It is in every respect identical with typical specimens from Darjeeling.—W. R. O. G.]

10. Staphidia torqueola (Swinhoe); Sharpe, Cat. B. Brit. Mus. vii. p. 615 (1883).

Young partly in down.—Above similar to adult. Below light buff, with dark grey edgings to the breast-feathers; thighs brownish grey; under tail-coverts white.

Three nestlings taken in May at Kuatun, N.W. Fohkien.

11. Yuhina pallida La Touche, Ibis, 1897, p. 452.

Young.—On the upper parts similar to the adult; wings dark brown; quills edged with olive-brown; upper wing-coverts and outermost secondaries washed with the same. The lower parts show no grey and are pale buff, this colour being somewhat deeper on the lower flanks. Under tail-coverts buff.

Three nestlings taken in May 1896 at Kuatun, N.W. Fohkien.

12. Iole holti (Swinhoe); Sharpe, Cat. B. Brit. Mus. vi. p. 61 (1881).

A *young male* differs from the adult in the following particulars:—It is slightly browner on the back; the crown is of a paler and duller brown, the pale stripes barely indicated; below it is identical with an adult male from Kuatun, save that the throat-feathers are not fully developed and are of a paler grey, with the white much less accentuated.

Obtained at Kuatun during the autumn, 1896.

13. Hemixus canipennnis Seebohm, P. Z. S. 1890, p. 342, pl. xxvii.

Jr. Differs from adult in being of a rather darker and duller chestnut above, also in having the outermost secondaries washed with chestnut and edged with a light tint of the same. The primaries and secondaries are edged with greyish chestnut, lighter and greyer below the emargination of the third and fourth primaries. The white of the underparts is tinged with buff in places, and the grey is but very faintly indicated.

The above description is taken from a young bird shot at Kuatun, N.W. Fohkien, on 2nd October, 1896, which is moulting into the adult plumage.

14. Cryptolopha fulvifacies (Swinhoe); Sharpe, Cat. B. Brit. Mus. iv. p. 406 (1879).

Young birds obtained at Kuatun in May 1896 differ from the adult in wanting the black stripes on the head and in having the throat white, the feathers only just tipped with blackish; the chest-band is of a greenish yellow, and the crown and face are much paler and duller.

15. Cryptolopha sinensis Rickett, sp. n.

Cryptolopha castaneiceps Slater (nec Hodgs.), Ibis, 1897, p. 174 [N.W. Fohkien]; Rickett & La Touche, Ibis, 1897, p. 601.

This well-marked species is similar in general appearance to *C. castaneiceps* Hodgs., but the breast and belly are uniform yellow and without a trace of white down the middle of the underparts, and only the outermost pair of tail-feathers have the inner web white, whereas in *C. castaneiceps* the three outermost pairs are mostly white. Wing: male 2·0 inches; female 1·85.

This species was met with at Kuatun, in the month of April.

Four young birds were obtained by our men at Kuatun in May 1896. They are very similar to the adult, but the grey on the neck and breast is much washed with green, and the chestnut on the head is of a darker and duller hue.

16. Cryptolopha intermedia La Touche, Bull. B. O. C. vii. p. xxxvii (1898); Ibis, 1898, p. 298.

Most nearly allied to *C. tephrocephala* (Anders.) and *C. affinis* (Hodgs.). From the former it differs in having a much shorter bill and the outer secondary coverts distinctly tipped with pale yellow, forming a well-marked speculum on the wing. It differs from *C. affinis* in having a *yellow ring* of feathers round the eye, but resembles that species in the shorter bill, the more brilliant yellow of the underparts, and in the greater amount of white on the inner webs of the two outer pairs of tail-feathers. Wing 2·2–2·3 inches.

Specimens were obtained at Kuatun in the months of May and September.

17. Dendrocopus insularis (Gould); Hargitt, Cat. B. Brit. Mus. xviii. p. 272.

[I have received a pair of this Woodpecker obtained in the months of April and October at Kuatun. This is the first time this Formosan species has been recorded from China.—W. R. O. G.]

18. Lepocestes sinensis Rickett, Bull. B. O. C. vi. p. 1 (1897); Ibis, 1897, p. 452.

Young female. Crown very dark brown, with four broad buff stripes starting from the forehead, which they occupy entirely; rest of upper parts of same dark brown, barred with rufous; wings and tail as in adult; chin and throat much darker than in adult female; ear-coverts and sides of the neck of a more reddish tint than in adult female. Underparts very dark brown, almost black; breast-feathers with pale shafts and slightly barred with rufous; anal region and under tail-coverts barred with rufous. Bill yellow in dry skin. Culmen 1″·4, wing 4″·8 (in quill), tail 3″ (in quill), tarsus 1″.

Two males, and the nestling described above, obtained during spring 1897 at Kuatun.

19. Ceriornis caboti Gould, P. Z. S. 1857, p. 161.

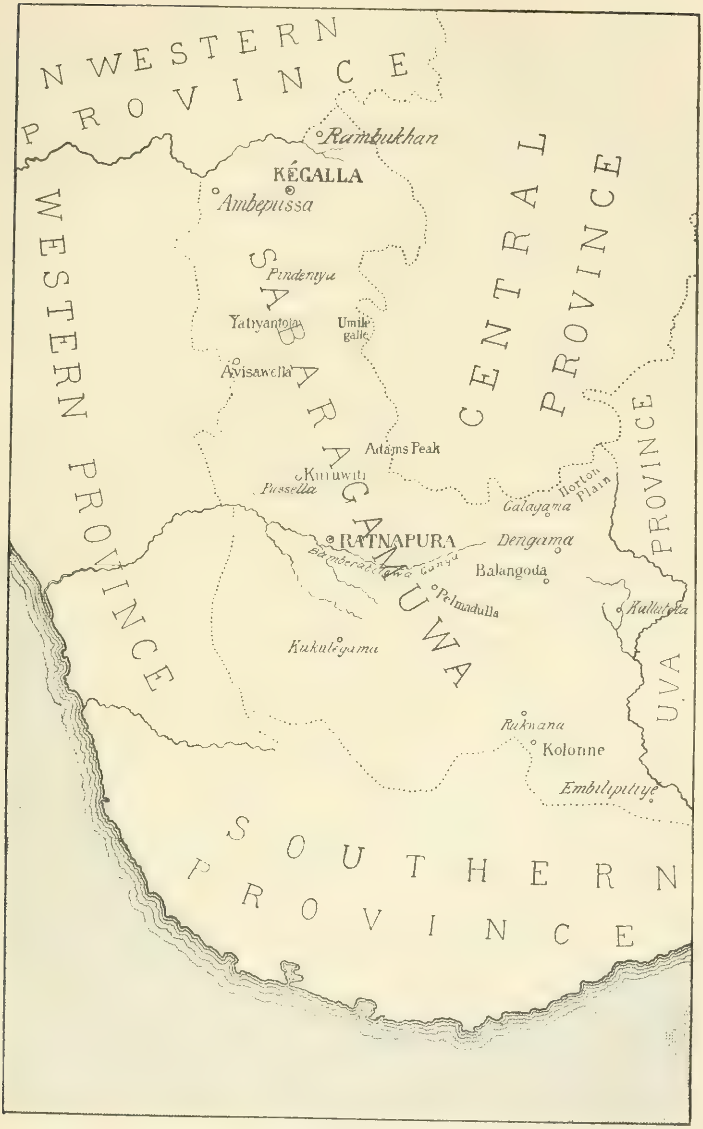
Several adult males, young males, and females were collected at Kuatun during the winter, 1896–97.

XXXI.—*Field-notes on the Land-birds of Sabaragamuwa Province, Ceylon.* By Frederick Lewis, A.C.F. Ceylon, F.L.S.

Before proceeding to enter into the more minute details of this paper, it may not be out of place to give a short general description of the province of Sabaragamuwa, so that the readers of 'The Ibis' may more fully be able to picture to themselves the character of the country in which the birds described are to be found.

Briefly, the province contains very nearly the greatest range of altitude in Ceylon, and if Pidurutalagalla, our most lofty mountain, be excluded, this general statement is more nearly correct, as Sabaragamuwa extends from about 50 feet above sea-level to close on 7200 feet. In this wide variation of altitude there is, naturally, wide variation in temperature. Not only does the thermal variation show wide differences, but the rainfall is still more variable, for it ranges from, roughly speaking, 40 inches at Embelipitiyé in the dry zone, in the east, to close on 300 inches in the valley of the Kuruganga, within the influence of Adam's Peak.

Amid such rapid variations, both of temperature, altitude, and humidity, a still more changeable state of soil and vegetation is met with. In the hot and dry flat country—the Bintenna of the Singalese—a rich soil is found. In the wet steaming forests, within the limit of the high rainfall, the soil is sandy, poor, and usually shallow, while up in the high altitudes the forest-clad hill-ranges are frequently broken by long open stretches of grass- or "patina"-land. The presence of these patina-lands is not clearly accounted for, and various theories have been put forward to explain why there should be a hard-and-fast line between high forest and short grass; but though some of the explanations are distinctly plausible, they do not answer all the conditions of the problem. I may here state that patina-land is not the exclusive characteristic of the hill-country, but its occurrence has an undoubted effect on the distribution of the birds, and as such forms an important factor. Not only so, but the


WESTERN PROVINCE
Rambukhan
KÉGALLA
Ambepussa
SABARAGAMUWA
Pindeniya
Yatiyantota
Umilegalle
Avisawella
CENTRAL PROVINCE
PROVINCE
Adams Peak
Kuruwiti
Pussella
Horton Plain
Galagama
RATNAPURA
Dengama
Bamberacotuwa Ganga
Balangoda
Pelmadulla
Kallutota
Kukulegama
UVA
WESTERN PROVINCE
Ruknana
Kolonne
Embilipitiye
SOUTHERN PROVINCE

MAP OF THE PROVINCE OF SABARAGAMUWA, CEYLON.

conditions of forest distribution are also to some extent affected.

Taking the general physical conformity of Sabaragamuwa as a whole, it may be regarded as very mountainous over two-thirds of its entire area, the flat country being mostly to the south and nearest the sea, while the hill-ranges begin rapidly to rise from Ratnapura, the chief town of the province, both to the east, north, and north-west ; but in making this general statement it must not be supposed that all the hill-ranges radiate from the spot mentioned. The great mountain-zone that divides the Sabaragamuwa Province from the Central Province may be said to take its rise from the bottom of the valley through which the Kalani river forces its way into the lower plains, and rapidly rises until it reaches Adam's Peak, comprising within that area the wettest part of Ceylon. From Adam's Peak a continuous high altitude is maintained towards the east, where vast precipices are found, around which some of the most curious variations of vegetable life occur. The hills then undulate a little to the north, when the Horton-Plain country is reached, and the basin of the Belihuloya stream terminates the province-boundary to the east, after which the Uva Province takes up the continuation of the great hill-zone.

The high rainfall already referred to of necessity gives rise to a great number of streams that in turn form rivers of considerable magnitude. None of these rivers are, within the province under description, subject to tidal action, but all of them, during the period of high rainfall, overflow their banks, causing (except in the case of the Wallawey river that flows for the greatest part of its entire length through the "Bintenna," or dry zone) floods over large portions of the country.

The wet forests, or areas in which the mean humidity is high, contain by far the largest proportion of vegetable life, and it is here that the greatest profusion of birds may naturally be expected to occur, but such is not the case as regards species. Numerically the individuals in the wet forests may be abundant, but for variety of species the dry zone has the preponderance in its favour. Thus, taking two extreme points, at Kittulgalla, where the rainfall is over 200 inches, it is unusual to find more than five species of Hawks; on the other side of the province, at Embelipitiyé, more than a dozen kinds will be found in a day. Again, instead of taking the variation on an east-and-west line as above, let us take a north-and-south direction, the former in the hill or high-level country, and the south pole of observation in the plains; we shall find in the hills *Zosterops ceylonensis, Kelaartia penicillata, Elaphrornis palliseri, Parus atriceps*, and *Myophoneus blighi* as typical mountain-forms, while our south pole of observation will take in at a glance *Haliastur indus, Palæornis torquatus, Megalæma zeylanica, Zanclostomus viridirostris, Caprimulgus asiaticus, Thamnobia fulicata, Ixos luteolus, Rhipidura albifrontata,* not to mention numbers of more or less water-loving birds. So much for distribution by altitude. This, however, is not the entire limit of variation, for while in some cases altitude and rainfall do in a measure restrict the individual limits of distribution, as well as reduce the variety of species, yet the position of the country as a whole brings it within the scope of migration of numbers of birds from the temperate zones of the earth as well as of purely tropical migrants.

I venture to think, therefore, that distribution is to be looked for only among endemic species, and it is here only, so far as my personal observations go, and these extend over the last 16 years, that fixed areas of distribution can be found; and this distribution is further reacted upon by other conditions of environment, such as the presence or absence of grass-lands, swamps, high forests, and bush-lands.

Another very important factor in bird-distribution is the influence of the monsoons. During the south-west monsoon months that extend from the early part of May to the early part of September, most of our migratory species are absent. High winds prevail, and in parts of the province, especially to the north-east, the whole of the vegetation of the country is passing through a continuous period of unrest. Insects are blown away to more sheltered spots, flowers are few, and when formed are rudely torn off and lost, and those birds that remain are forced to a state of comparative privation.

When, on the other hand, the north-east monsoon comes in, with its sharp local thunderstorm, a still air, and a burning sun, then bird-life is found in profusion. The first of the migratory species to appear is generally *Motacilla melanope.* This beautiful little Wagtail will be found often on the 1st of September, and in a few days, from the banks of the cold bubbling streams in the heart of the "wilderness of the Peak," down to silent rivers of the "Bintenna" country, this ever active little bird will be found in restless movement in search of its food. Soon after, and often together with this Wagtail, will be found *Merops philippensis* and *Hirundo rustica,* while more to the south, in the swamp-lands and rice-fields (paddi-fields), the sportsman of the country hopes to record his bag of the "first Snipe of the season." The Snipe (*Gallinago stenura*) arrives about the 2nd of September and departs at the end of April, though it it is not uncommon to find individual specimens so late as the 10th of May. In the hills, as well as in the low country, migratory species begin to increase in number, counting among them such species as *Cerchneis tinnunculus, Hierococcyx varius, Lanius cristatus, Terpsiphone paradisi, Phylloscopus nitidus,* and *Pitta coronata,* not to mention many others that are less noticeable. The stream of migration is difficult to follow, as it has never been regularly observed at different points at right angles to its course simultaneously; but the impression I have gathered from my own observations is that in this province the incoming stream strikes well to the south of the main mountain-ranges, while the outgoing may be taken at first as a gradual thinning of species in the hills and increase in the plains, after which the departure takes place, probably in the course of a few nights. I have not been able to find any special places or points at which birds of any one species congregate previous to departure, and I receive with doubt the statement insisted on by some observers that this association does take place, as it has not been supported by my own direct experience, beyond a few occasions on which I have found large assemblages of birds of one species within one isolated area. These occasions, however, were not at those periods when the outward migration was commenced, but rather on the contrary. I will, in its proper place, again refer to this fact in its relation to migratory as well as endemic species.

The influence of vegetation in relation to the fluctuation of migration is also obvious, and I will take four types of country as illustrating this:—First, the dry forest-land within the minimum rainfall limit; second, the wet forests within the maximum rainfall limit; third, the grass- or patina-land limit; and fourth, the swampy and bush-land limit.

The first of these, of course excluding Waders, includes the greatest number of species, embracing migrants and residents and a proportion of endemic species, in contradistinction to birds that are resident but not indigenous. The wet forests produce a certain number more of resident and endemic species than the dry forests. The grass-country is distinctly specific in distribution, and swampy and bush country may be said to exhaust the families of Waders and supplement their numbers by a few endemic and a large proportion of the resident and migratory species.

It would be out of place here to attempt to give anything like a description of the botanical aspect and features of such a province as Sabaragamuwa, but I would draw attention to the fact that the fruiting of certain trees at regular intervals in the year, and again of others at periods separated by years of interval, bring about corresponding times within which the increase of certain frugivorous birds can be distinctly traced to this cause. For example, the fruiting of the banyan-tree will gather multitudes of Barbets and Pigeons, while the seeding of a gregarious *Strobilanthes* in the highest hills brings the Jungle-fowl (*Gallus lafayetti*) in the greatest abundance where before they were only occasionally seen.

The valleys of the larger rivers appear to mark the ranges of certain species, and in this particular I find the most restricted to be *Merops swinhoii* and *Carpophaga ænea*, not, of course, counting Kingfishers or Waders. To this might be added a larger number, as found in the valleys of the rivers in the dry forest-region; but possibly that may be accounted for by the fact that the rivers in that locality are always fringed with trees that, on account of the increased moisture at their roots, are more healthy, and produce food in the form of fruit, and food for insect-life, that in its turn is devoured by insectivorous birds.

The period of nidification generally corresponds to that of the greatest vegetable activity, but this is by no means true as regards all the species. It is also remarkable that many birds are found building just before the burst of the monsoon, for it cannot be assumed that birds hatched at that time can ever be brought to maturity; in fact, I have on many occasions found dead nestlings and nests drowned out by rain.

In the following list I propose to give a description of the local ranges and distribution of the birds of this portion of Ceylon. I have followed, both in nomenclature as well as classification, the names and arrangement adopted by Col. W. V. Legge in his monograph of Ceylon birds, a work that, I may presume to remark, is not only a monument to the industry of its gifted author, but is an admirable text-book of the ornithology of the island of Ceylon.

ACCIPITRES.

1. Circus cineraceus Mont. (Legge, 'Birds of Ceylon,' p. 12).

A migratory visitor and very variable in colour. I have found it in the dry zone to the south of the province and in the grassy country to the east, where it may be mistaken for the next species.

2. Circus macrurus (Legge, B. of C. p. 17).

A regular migrant, arriving in large numbers in October and spreading over the open country up to the highest hills. It does not occur in forest-land, but is found in both marsh- and grass-land, besides frequently visiting the tea-plantations, where occasionally it gets shot. It leaves the province towards the end of the N.E. monsoon, about which time it is most abundant in swampy lands.

3. Astur trivirgatus (Legge, B. of C. p. 20).

A resident species and confined to the forests at both high and low altitudes, but I have not found it in the strictly dry zone. Its eggs have been taken in Ceylon, but I have not seen them. I have noticed that during the north-east monsoon this Goshawk is more plentiful at high altitudes than during the opposite season.

4. Astur badius (Legge, B. of C. p. 23).

I have observed this bird most frequently at 2500 feet elevation in open land. It is a resident species and very solitary in its habits.

5. Buteo plumipes (Legge, B. of C. p. 31).

I have seen only the skin of one shot in the Bambarabotowa forests. A rare visitor to Ceylon.

6. Lophotriorchis kieneri (Legge, B. of C. p. 43).

I have only on one occasion seen this fine bird at 2300 feet elevation flying round some high forest and rocky land near Balangoda on the eastern side of the province.

7. Neopus malayensis (Legge, B. of C. p. 47).

This is an abundant species, but though it is often seen up to the highest elevations, it is more frequently met with in the drier portions of the province: thus it may be found more common to the east than in the western half of Sabaragamuwa. Resident.

8. Spizaëtus kelaarti (Legge, B. of C. p. 51, pl. i.).

Peculiar to Ceylon and confined to the hill-country at high altitudes. A fine specimen shot by myself was obtained at an altitude of 5000 feet.

The restriction of this species to high elevation and to forest-clad hills is noticeable in the case of a bird with such powerful flight.

9. Spizaëtus ceylonensis (Legge, B. of C. p. 55, pl. ii.).

A low-country species and frequenting only the dry forests, where I have found it towards the base of the southern hills.

10. Spilornis spilogaster (Legge, B. of C. p. 61).

Common nearly all over the province, but more abundant in the dry parts. It is a resident species.

11. Haliastur indus (Legge, B. of C. p. 76).

Restricted to the dry zone of the province. I have found it hawking in great numbers over the tanks in the south-east, where it may be found all through the year. Resident, but I am not aware that it breeds in the province.

12. Elanus cæruleus (Legge, B. of C. p. 85).

A common species, most frequently found affecting the grass-lands of the province, but not strictly confined thereto. It is distinctly more plentiful during the N.E. monsoon, and must therefore be regarded as partially migratory.

13. Cerchneis tinnunculus (Legge, B. of C. p. 114).

A migrant during the N.E. monsoon, during which period it may be found at all elevations, but is not so particularly abundant in the wettest or driest parts of the province. It becomes scarce in April, during which month it probably takes its departure.

STRIGES.

14. Ketupa ceylonensis (Legge, B. of C. p. 127).

A dry-zone bird, but occasionally found up to 2500 feet altitude in the neighbourhood of rivers only. Its favourite haunts in Sabaragamuwa appear to be in the large trees fringing the rivers and tanks in the "Bintenna," where this large Owl may be found all the year round. I am not able to record anything of its nidification.

15. Bubo nipalensis (Legge, B. of C. p. 131).

I record this species with much hesitation as being found in the wet forests. I base my record on a description that I received from a friend, who procured and described what I believe to have been a specimen of it, but I cannot speak of it with certainty. Its occurrence is, however, very probable.

16. Scops bakkamæna (Legge, B. of C. p. 135).

A very common resident species throughout the province up to 2500 feet, but more numerous at lower altitudes.

17. Scops minutus (Legge, B. of C. p. 142, pl. iv. fig. 2).

An endemic species. I have only once procured this beautiful little Owl at 4000 feet in high forest.

18. Ninox scutulata (Legge, B. of C. p. 145).

Recorded as common, but that is not my experience, as I have obtained it only once from the wet forests in the Balangoda district at 2500 feet elevation.

19. Glaucidium castanonotum (Legge, B. of C. p. 149, pl. iv. fig. 1).

An abundant resident species, and mostly confined to the wet forests of the higher ranges. I have met with it in dense forest in the neighbourhood of Adam's Peak, and again near the Horton Plains.

20. Syrnium indrani (Legge, B. of C. p. 155, pl. v. fig. 1).

This is the so-called Devil-bird of the Europeans, and is regarded by the natives of the country as a creature of ill omen, probably because of its wild and unearthly cries. The question has often been raised whether this Owl is the real cause of the dreaded cry or not; but while it is more than likely that the hoot of the Eagle-Owl (*Bubo nipalensis*) is equally appalling, yet, from my own experience, I can assert that the application of the local name is fully justified in the case of this species. I have on two occasions had the opportunity of hearing the cry of this Owl, which can only be described as blood-curdling. On the first occasion I was walking through a small clump of dense forest, and just as I was getting out into some grass-land (patina) I heard sounds that led me to believe a woman or a child was being murdered. It was a cloudless night, with a full moon shining, as clear as day, and so I could see all round me with perfect distinctness. I looked about, expecting each moment to find a dead body, when presently I heard a few feet from me a deep hiss, followed by a chuckling sort of laugh, and this again succeeded by a gurgling sort of sob. Then followed a deep and melancholy wail, ending in something like a scream. I stood perfectly still, but very uncomfortable, till I saw just a little above me a large Owl, in the full pure light of the moon, moving its body and puffing out its feathers as each cry followed the last. A movement on my part soon stopped all further sound, and the bird slowly assumed a more dignified attitude. The close bold barring on the feathers could be clearly seen in the moonlight, and the dead silence that followed the bird's noticing me within a few paces of it make it certain that this bird was the cause of the fearful sounds I heard, and which it—perhaps unfortunately—did not repeat. So soon as I moved it flew off with a slow, noiseless flight, and I heard no more. My second experience was much the same, except that on this occasion the bird was seated on a stump of a fallen tree, and it was startled by me before it got much beyond the overture of its dreadful opera.

This is a resident species, affecting the wet forests up to the highest ranges. I obtained a chick and reared it up to a full-sized bird; but all the time I had it I never heard it produce any sound but a hiss, or at times a contented sort of chuckle when I gave it its food. The general belief among the Singalese is that this bird cries only when there is a death, but they fail to perceive that if such was the case the bird would be pretty generally employed!

21. Phodilus assimilis (Legge, B. of C. p. 161, pl. v. fig. 2).

A very rare resident species, indigenous to the country. I have obtained it from the forests bordering the wet zone in the Balangoda district, and it has again been procured in the wet forests of the Kukulu Korah section of the province. It is also recorded from Kaduganawa, near

Kandy, and probably resorts to the damp forests about that locality.

The rich, soft plumage of this bird is very beautiful and striking.

PSITTACI.

22. Palæornis eupatrius (Legge, B. of C. p. 168).

Confined to the dry zone and found in greater abundance the nearer one gets to the E. and S.E. limits of the province. It may often be found near the foot of the hills in the interior, but then it occurs as a straggler.

23. Palæornis torquatus Boddaert (Legge, B. of C. p. 171).

One of the favourite cage-birds of the country. The Singalese are particularly fond of this bird, and there is hardly a town in the province where it may not be found as one of the domestic animals of one or more households. It is met with in the wild state in vast numbers in the dry zone, and one district on the borders of Sabaragamuwa is called the "Girrawa Pattu," or Parrot "Pattu," owing to the presence of these birds. It breeds in large, high trees, in holes in the trunk or branches, laying four or five white eggs. The eggs are free from any gloss, and look more or less chalky.

24. Palæornis cyanocephalus (Legge, B. of C. p. 174).

This very beautiful Parrot takes up a more intermediate distribution, being most common between the very wet and very dry zones, and may often be found in the open country at very high altitudes. It is not, strictly speaking, a forest species, and affects districts where most of the land is open, breeding in solitary trees. After the S.W. monsoon is past it spreads up into the tea-districts, where it may often be met with in small noisy flocks of six or eight birds.

25. Palæornis calthropæ (Legge, B. of C. p. 177, pl. vi. fig. 1).

An indigenous species and more distinctly confined to the wet zone and damp forests, but I have occasionally met with it also in the dry country, where it must be regarded as a straggler. It breeds in high forests and, like all the foregoing, in big trees. Eggs pure white and devoid of gloss.

26. LORICULUS INDICUS (Legge, B. of C. p. 180, pl. vi. fig. 2).

Peculiar to Ceylon. I am inclined to consider that this species should be regarded as more abundant in the intermediate districts between the wet and dry zones, as it is certainly to be found in greater numbers in that limit than in the extremes. It often ascends up to the highest hills, but is then only an occasional visitor. It breeds in high trees, but I have never succeeded in procuring the eggs.

In Colombo it may be frequently found for sale, and is known as the "Love-bird."

PICARIÆ.

27. IYNGIPICUS GYMNOPHTHALMOS Blyth (Legge, B. of C. p. 186).

This is our smallest Woodpecker, and much more often heard than seen. It is most frequently found round the base of the hill-country, on the limits of the dry zone, but rarely in the very wet country. It frequents high dead trees and the solitary clumps of them that are often to be found in grass-lands, but it is nowhere particularly abundant.

Travancore and Ceylon.

28. CHRYSOCOLAPTES STRICKLANDI (Legge, B. of C. p. 188, pl. vii.).

Indigenous to Ceylon. So far as this province goes it must be regarded as a purely forest species, and more abundant in the wet zone up to high altitudes than elsewhere. It is frequently met with at over 6000 feet elevation and down at 100, but I have not met with it except as above stated.

I have not seen the eggs, but I have found the nests. The birds appear to be shy in their breeding-habits, as on each occasion that I examined the nests they were promptly abandoned.

29. Gecinus striolatus (Legge, B. of C. p. 194).

A more or less strictly forest species, and found from 2500 to 6000 feet. On all occasions that I have found it, I have observed that it was in forests away from the open lands, but I find that Legge states that it is almost entirely restricted to the Patinas.

30. Chrysophlegma xanthoderus (Legge, B. of C. p. 197).

Not uncommon, and chiefly confined to the medium wet zone, extending down to the limits of the dry country.

I obtained in March 1892 two eggs from the trunk of a *Ficus glomerata.* The eggs were pure white, and rested on a roughly hollowed cup in centre of a decayed portion of the tree. This Woodpecker occurs in S. India and Travancore.

31. Micropternus gularis (Legge, B. of C. p. 200).

Chiefly a dry-zone bird so far as I have been able to discover, but I have on one occasion met with it in a coconut garden in Ratnapura.

In the dry country to the east I have frequently found it on fresh incrustations on ant-hills, eating white ants, to which it would appear to be partial.

32. Brachypternus ceylonus (Legge, B. of C. p. 202, pl. viii.).

An indigenous species. It occurs all through the wet country of the province below 3000 feet, and is frequently met with in the gardens belonging to natives. I obtained three eggs of this Woodpecker from the dead branch of an *Artocarpus nobilis.* The eggs are pure white and glossy. Beyond making a deep excavation into the centre of the branch, the nest was of the crudest description, and the eggs were mixed up with wood chips &c.

33. Megalæma zeylanica (Legge, B. of C. p. 208, pl. x. fig. 1).

A common indigenous species, spreading over both wet and dry parts of the province up to 2500 feet, after which it is rarely seen. In point of numbers I have found this Barbet more abundant in the dry zone, but it is not specially restricted thereto.

The eggs are always laid in holes in trees, and are pure white with a creamy white gloss.

34. MEGALÆMA FLAVIFRONS (Legge, B. of C. p. 212, pl. x. fig. 2).

An indigenous and abundant species, common all over the province.

It breeds like *M. zeylanica*. Eggs white.

35. XANTHOLÆMA RUBRICAPILLA (Legge, B. of C. p. 215, pl. xi. fig. 1).

Indigenous, and up to about 3000 feet nearly as common as *Megalæma flavifrons*. It breeds in holes in dead branches of soft-wood trees. Eggs very round and glossy white.

36. XANTHOLÆMA HÆMACEPHALA (Legge, B. of C. p. 218).

Strictly a dry-zone species. It occurs in the Kegalla district towards the north-west, and again in the Kolonna Korah towards the Tangalla district.

37. CUCULUS SONNERATI (Legge, B. of C. p. 233).

A rare dry-zone bird, occurring sparingly in plains below the Rakwana hills.

Recorded from South Konkan by Vidal ('Stray Feathers,' 1881, p. 54).

38. HIEROCOCCYX VARIUS (Legge, B. of C. p. 240).

A migrant, arriving in the province late in October and departing again in May. During its stay it is particularly restless and noisy, and may be heard uttering its monotonous and gamut-like cry at all times of the day, and often on moonlight nights.

It does not appear to confine itself to any particular altitude or zone, as it is equally common through the low country as well as the hills.

39. SURNICULUS LUGUBRIS (Legge, B. of C. p. 243).

I have only twice obtained this Cuckoo, in the Balangoda district. On the first occasion I found it, it was being tormented by Drongos that actually pecked it to death.

40. Coccystes jacobinus (Legge, B. of C. p. 246).

I have met with it only in the dry zone, in the plains extending towards the south.

41. Coccystes coromandus (Legge, B. of C. p. 249).

I obtained a single specimen of this Cuckoo during the N.E. monsoon, at 2300 feet altitude, in the Balangoda district.

42. Eudynamis honorata (Legge, B. of C. p. 251).

An abundant low-country species, but rarely found above 1000 feet. It breeds in the country, depositing its eggs in the nests of the Black Crow.

This is, without exception, the most noisy bird in the country, and during the breeding-season its cry is most irritating and monotonous.

43. Phœnicophaes pyrrhocephalus (Legge, B. of C. p. 255, pl. xii.).

An endemic species, rarely found above 3000 feet in this province, and more abundantly at low levels on the confines of the dry zone. I obtained some young birds just able to fly at a place called Kurugangmodera, and found both parent-birds taking an active part in feeding the young ones. This beautiful Cuckoo is the only gregarious one of the family, so far as I am aware, in Ceylon.

44. Zanclostomus viridirostris (Legge, B. of C. p. 258).

Distinctly a dry-zone bird. It occurs on the north in the Kegalla district, where, up to 1500 feet, it is not uncommon. Again, towards the east, and right down to the base of the Morowak Korah hills, it is fairly plentiful, and ascends as far as Balangoda, where I have obtained it at 2000 feet.

45. Centropus rufipennis (Legge, B. of C. p. 260).

Common all over the province, except perhaps at the altitude of 5000 feet and over. It avoids the deep forests, preferring the outskirts, gardens, and fields, where it is always abundant.

46. Centropus chlororhynchus (Legge, B. of C. p. 263, pl. xiii.).

Indigenous. I have met with it only in the country extending from the northward base of the Rakwana hills towards the Wallawey river, and again on the northern confines of the Kegalla district in the valley of the Maha Oya. I notice that Legge records it from the Ratnapura side of the Peak range, but though I resided there for several years I did not observe it.

47. Harpactes fasciatus (Legge, B. of C. p. 269).

A bird with a very wide distribution in the Sabaragamuwa Province. I have found it in dense, gloomy, wet forests in the wilderness of the Peak, in the cold hill-forests near the Horton Plains, and again in the satinwood forests of the dry zone to the south and east. In the wet country on the borders of the Western Province it becomes fairly common, but cannot be regarded as plentiful anywhere.

I am indebted to my friend Mr. Simmons, of the Public Works Department, for some information as to this bird's nidification. According to him, the nest was placed in a hollow of a dead kittul palm (*Caryota urens*); the eggs were mottled over with a number of richly-coloured spots, but were unfortunately lost.

I am inclined to believe that a second species of Trogon is to be found in the South and S.E. of Ceylon, as on one occasion when I was out plant-collecting I came upon a most brilliantly-marked *Harpactes* with a *vermilion* breast, with very bright chestnut upper surface, and less of the blue colouring round the eyes and gape, and more like Mr. Keulemans's beautiful figure of *H. whiteheadi* (Ibis, 1888, pl. xii.). I had a close view of the bird—it was on the banks of the Kivinde river in the Southern-Province dry zone—and I could clearly see that it was not our common bird.

48. Anthracocerus coronatus (Legge, B. of C. p. 272).

A strictly dry-zone bird. I have only found it up the valley of the Wallawey river in this province as far as

Embelipitiyé, and again more to the south in the plains, towards Hambantotta.

49. Tockus cingalensis* (Legge, B. of C. p. 275, pl. xiv.).

Peculiar to Ceylon. I have obtained it both in the forests of the dry zone as well as in the wet up to 3000 feet, and I have at rare intervals seen it at 5000 feet. I am under obligation to Mr. G. W. Jenkins for having obtained an egg of this species for me from the Gillimali forests. It was a dull white in colour and broadly oval in shape. Again, at Pindeniya, in the Kegalla district, I found a newly-hatched bird, just able to fly, being fed by both parents. The nest was in the hollow of a *Dipterocarpus zeylanicus* at a great height from the ground; but I was unable to secure any part of it, as the hen had broken her way out from the mud-surroundings that undoubtedly are used.

50. Upupa nigripennis (Legge, B. of C. p. 278).

A strictly dry-zone bird. It is almost confined to the borders of the south of the province next to the Hambantotta district, where it is fairly numerous in the open scrubby plains.

51. Coracias indica (Legge, B. of C. p. 281).

I have obtained this bird in the intermediate region between the wet and dry parts of the province, both in the north and west. It appears to some extent to migrate between these limits; thus I have found it abundantly in the wet-zone country adjoining the Colombo district, and again in the hot plains below the Alagela mountain-range.

52. Eurystomus orientalis (Legge, B. of C. p. 285).

The distribution of this extremely rare bird is apparently confined to one part of the province, where I have found it on the Gongala range of hills, and on a continuation of the same chain of hills into the Kukulu Korah, where, in January 1893, I again met with it. The hills I refer to are on the limit of the wet zone, where they rise abruptly from the hot plains. I found a specimen in the private collection of a friend, who stated that he had shot it at the top of Longford Estate, which is near the summit of the range just mentioned.

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* Surely this name should be written *cingalensis*, and not *gingalensis*, as the latter is absurd.

53. Alcedo bengalensis (Legge, B. of C. p. 292).

Abundant throughout the province, and found breeding up to 3000 feet altitude.

The effect of rainfall, or perhaps I should say humidity, distinctly modifies the colouring in some, if not in all birds, and I do not know a better example of this than in the present species. I have obtained specimens of it from the driest parts of the province, and again from the wettest, and the difference in general colour was one of several degrees of shade. Thus, taking the examples of *Alcedo bengalensis* obtained at Bedigantotta on the Wallawey river, say 12 miles in a direct line from Hambantotta, with a mean rainfall of 42 inches, and comparing them with examples obtained in the valley of the Kuru river, that drains an area over which the rainfall exceeds 300 inches, it is almost as comparing brown with black. The dry-zone forms are always paler, with a greenish gloss over the blue colouring, while the wet-zone birds are of a deep blue on all the blue patches. I think this fact may be explained in this way : that as vegetation is more rank in wet steamy localities than in the plains, where for months hardly a drop of rain falls to revive the drooping undergrowth, it must follow that the more dense the vegetation, the deeper the shadows cast by trees &c. on the banks of streams, and by adaptation, the coloration of the forms inhabiting such spots will be varied accordingly. I noticed in Borneo, while working on the Segalind river, that in some of the most gloomy growths of vegetation there were the darkest forms of this Kingfisher, while specimens taken from the paddi-fields in the North-western Province of Ceylon might at first glance be easily taken for a different species when the two were set side by side, if colour only were taken as a standard on which to base specific differences.

The eggs are generally three in number and of a pure glossy white colour, with a shade of pink before they are blown.

54. PELARGOPSIS GURIAL (Legge, B. of C. p. 295).

Generally speaking a low-country bird, and in Sabaragamuwa Province I think about equally abundant in both zones. I have found it at 2300 feet elevation, but it rarely migrates above 1000 feet.

I obtained three eggs from a nest constructed in the dead branch of a kumbuk tree (*Terminalia glabra*) that was overhanging a river.

55. HALCYON SMYRNENSIS (Legge, B. of C. p. 298).

Found up to 5000 feet, but is much more abundant at about 1000 feet, at which altitude it may be found in almost every paddi-field. It breeds in the province.

56. CEYX TRIDACTYLA (Legge, B. of C. p. 303).

I have met with this bird only about six times, and on each occasion in the low country. I am not able to say whether it is more exclusively a dry-zone form than the opposite, as the few opportunities I have had of seeing it are insufficient to base conclusions upon.

57. MEROPS PHILLIPENSIS (Legge, B. of C. p. 306).

A very abundant migrant, arriving in Ceylon early in September and departing again towards the end of April. During its stay it is found in great numbers in the open country, especially in the neighbourhood of rice-fields, where it is particularly common. It is not a forest species, and as distinct from the next species it is not a dry-zone bird, though it is often found close to the sea-coast. I have not met with its eggs.

58. MEROPS VIRIDIS (Legge, B. of C. p. 309).

I have found this Bee-eater only in the very driest part of the province, between Embelipittiya and Bedigantotta, where it is very common on the low scrub open land.

59. MEROPS SWINHOII (Legge, B. of C. p. 312).

In this province I have found the Chestnut-headed Bee-eater strictly confined to the valleys of the larger rivers within the wet zone: thus it is common in the valley of the Kaluganga from Gillimally to Kalutara; in the Kalani Ganga from Colombo to the Kehelgama hills and its tributary streams.

60. CHÆTURA GIGANTEA (Legge, B. of C. p. 314).

It is difficult to place a limit within a province across which a bird could fly in a couple of hours, so I am unable in this instance to assign a specific locality or zone to this fine Swift. It is rather more abundant on the whole at high altitudes, about 5000 feet, than in the plains, but I have also met with it in the Bintenna.

61. CYPSELUS MELBA (Legge, B. of C. p. 317).

Like the last, a bird of immense power of flight, and thus difficult to locate. I have found it along the southern slopes of the Peak Range right up to the Galagama Valley and the Horton Plains.

62. CYPSELUS AFFINIS (Legge, B. of C. p. 319).

I have met with this bird at irregular intervals in the lower hill-country towards the east of the province, but only as a visitor.

63. CYPSELUS BATASSIENSIS (Legge, B. of C. p. 322).

Chiefly confined to the open country in the eastern centre of the province. It is rarely found at high altitudes, but may occasionally be seen in small flocks in both the Rukwana and Balangoda hill-ranges.

South India and Burmah.

64. COLLOCALIA FRANCICA (Legge, B. of C. p. 324).

A common species in this province, and breeding in many of the deeper rocky ravines of wet forests. I have met with "breeding-stations" at 2000 feet and up to 5000 feet, but in all instances directly in the neighbourhood of water. Close to the province-boundary there is a large cave known to the natives as Liniyagalla, or the Swifts' Rock, where many years ago the right to collect their nests was sold by Government to a Chinaman. But this source of revenue does not now exist in Ceylon, as there are but few Chinese in the island, and the quality of the nests obtained is so poor as not to justify their being collected for exportation.

65. Dendrochelidon coronatus (Legge, B. of C. p. 328).

Frequently found throughout the province, but not above 3000 feet, and more particularly in the intermediate districts between the wet and dry zones.

66. Batrachostomus moniliger (Legge, B. of C. p. 331).

I have only once met with this very curious bird in the Balangoda district (wet zone), when I found an example sitting asleep on the low branch of a tree. Having no gun in my hand at the moment, I could not shoot it, but I have not the least doubt as to its identity.

67. Caprimulgus kelaarti (Legge, B. of C. p. 337).

I have found this bird only in the highest parts of the province, where it appears to be confined to forests bordering grass-lands. Its curious note can often be heard in the jungle during the day, but it rarely ventures within sight till the shades of evening have fallen.

A nest was procured—if nest it could be called—by a friend, containing one egg, that I had an opportunity of examining. It was of a yellowish-salmon colour, broadly blotched with brown.

68. Caprimulgus atripennis (Legge, B. of C. p. 340).

A dry-zone bird, though not strictly so, as I have found it on the confines of the wet zone repeatedly; but in point of abundance I have met with the greatest numbers at the foot of the hills on the east of the province, where it may easily be distinguished by its curious habit of sitting on the branches of the trees and bushes, unlike the following.

69. Caprimulgus asiaticus (Legge, B. of C. p. 343).

This is our commonest Nightjar, and is found in all parts of the province up to the foot of the hills, ascending up to 2500 feet in the eastern parts of the country. I have observed a curious break in the distribution of this bird that is worthy of remark.

This Nightjar is found in abundance in the little village of Veralupe, that adjoins the town of Ratnapura, but half a mile to the east it does not occur, and a little beyond it again appears in numbers. I can find no explanation for this curious phenomenon, though I have watched the case with curiosity for some years.

[To be continued.]

XXXII.—*Notes on the Birds of Northern Formosa.*

By J. D. D. La Touche*.

1. Merula pallida (Gm.).

A common Thrush in winter in Northern Formosa. Seen as late as 15th April. I shot at Tokoham on 27th January a male example of this species in full adult plumage, and one showing a little white on the throat. Another shot on the North Hill on 19th February is in nearly as fine plumage as the first of the Tokoham birds.

I have only pale-throated specimens from Fohkien, and one or two of these show a faint eyebrow.

2. Merula chrysolaus (Temm.).

None of this species were noticed during the winter, but two were obtained near Hobé on 5th and 14th March. Several other Thrushes seen during March and April were, I believe, of the same kind.

3. Merula obscura (Gm.).

One was obtained on North Hill on 19th March.

A party of Thrushes seen on 7th February at Hobé flying high overhead were thought at the time to be *M. fuscata* from their call. They were going in a north-westerly direction.

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* [In a letter accompanying these notes Mr. La Touche states that he was resident at Tamsui, in Northern Formosa, from October 1894 to July 1895, nearly all the time without a collector. He was able to make but one trip inland, and that a flying visit to the border of the savages' territory—the Japanese, by their misgovernment, having practically closed the country to foreigners.

Mr. La Touche recommends an expedition to "Botel Tobago"—a small hilly and wooded islet about 40 miles east of the south cape of Formosa, which has never been visited by a naturalist. It appears to be what is called in Johnston's Royal Atlas "Bashee Island."—Edd.]

4. Geocichla varia (Pall.).

Two males shot on 4th November and 15th March on the North Hill. A few others were noticed in the same locality.

5. Monticola solitarius (Briss.).

Common in Northern Formosa. Two obtained at Tokoham in January.

6. Myiophoneus insularis Gould.

Fairly common about the mountain-streams. I procured six examples from the neighbourhood of Tokoham. One of them was shot quite close to the city. The alarm-note is a plaintive "tzeet." It is a shy bird, and has much the same habits as *M. cæruleus* of China. The stomach of one specimen contained water-insects and freshwater shrimps.

7. Trochalopteron taivanum (Swinh.).

Abundant all over the country in the settled districts.

Eggs and nests said to belong to this bird were brought to me on 19th May and throughout June. The breeding-season probably lasts till the late summer, as eggs procured on 1st July were perfectly fresh. The full clutch is apparently three and sometimes two eggs. The shape of the eggs is variable, but a rather short ovate or a nearly true oval appears to be the usual shape. One of the clutches obtained consists of three ovate eggs, measuring 1″·07 × 0″·78, 1″·08 × 0″·77, and 1″·06 × 0″·76. Eleven eggs each measure 1″ × 0″·8, and the 21 in my collection average 1″ × 0″·78 (excluding an abnormally small clutch of three ovate eggs obtained on 19th May and measuring 1″ × 0″·7, 1″ × 0″·75, 0″·95 × 0″·7). The colour is turquoise-blue, the shell being very smooth and glossy.

The nest is made of leaves, twigs, rootlets, coarse grasses, and bamboo-leaves rather loosely bound together with tendrils, &c., the leaves and broader material forming the secondary base. It is in the shape of a cup of rough and irregular exterior, about 2″, or a little over, in depth, with an inner diameter of about 3″·25, and an outer diameter of about 7″. The seven nests collected have all a lining of pine-needles or fine roots.

8. Pomatorhinus musicus Swinh.

This Scimitar Babbler is very abundant about the lower hills and lowlands in bamboo-grooves and jungle, and is often seen quite close to the sea-shore.

I was unable to obtain any eggs.

9. Alcippe morrisonia Swinh.

Very abundant in Northern Formosa, but never leaving the hills, where it is often the commonest bird. I have seen very large flocks of this bird travelling through the cover on the hills, sometimes accompanied by other small birds.

10. Alcippe brunnea Gould.

Observed on the savage border near Tokoham.

11. Stachyridopsis ruficeps (Blyth).

This interesting little bird is very common in Northern Formosa, frequenting jungle, brushwood, and thick cover in woods. There, as on the continent, it is fond of the company of the *Alcippe* and other small birds. The “company” call-note is a dissyllabic, murmuring, and semi-querulous note, which may be written “Ti-churr” or “Che-djee.” When going through cover alone, the call is a loud whistle “Tütütü-tütü.” The bird appears then to be very shy and is not easily approached. The female of a pair obtained in June had the ovaries greatly developed, and was within a few days of laying. Two broods are probably reared.

A little grandson of my old collector at Tamsui discovered a nest on the 23rd June, 1895, while following me in one of my rambles on the North Hill. This nest was placed high in a bush in a wooded ravine. It is made altogether of bamboo-leaves, and is like a short and rather narrow inverted cone.

There were four young birds in the nest, nearly fledged, the tail-feathers just emerging from the quills. I brought them home carefully, hoping to be able to rear them ; but eventually only one survived for about 18 months.

On the whole the habits of *Stachyridopsis ruficeps* in captivity, so far as one can judge from one example, appear to be those of the Tits combined with those of *Trochalopteron canorum* and *T. taivanum.*

The stretching out the neck for stroking, common, I believe, to these Babblers and their allies, the familiarity and intelligence of this small bird, and its general habits show its affinities with the "Huami" tribe, while its gymnastic feats, its restless way of wandering along the sides and top of the cage, and its habit of searching crevices point to a relationship with the Titmice and their allies.

The nestling plumage of *Stachyridopsis ruficeps* is a dull olive above, quills edged with olive-green. The underparts are greenish buff. The throat of the nestlings taken began to get yellow about a fortnight after I took the nest. The red on the head had appeared in one of them a few days before.

In captivity these birds would appear to be omnivorous, but in order to be kept healthy they should always have fresh insect-food. My tame bird ate bread and milk, raw beef chopped fine, insects of all sorts, fresh or dried, salad, fruit, &c.

12. SUYA CRINIGERA (Hodgs.).

Prinia striata Swinh. Journ. N. C. B. Royal Asiatic Society, 1859, p. 227.

This bird seems to be common enough on the North Hill. I have no doubt that it breeds there. Two specimens were shot: one on 7th April (alt. about 1000 feet), the other in the crater of the North Hill (alt. 2600) on 28th April.

13. PRINIA SONITANS Swinh.

Common in N.W. Formosa, but rather more of a hill-bird than *P. inornata.* It keeps generally to the sword-grass jungle.

I obtained a nest and eggs of this bird on the 23rd June. This nest is a beautiful structure, wholly made of the down and flower-spikes of the sword-grass. In shape it is somewhat like the nest of *Suya crinigera*, but it is much smaller. It is perfectly oval, the back of the nest well rounded, while the front is rather flat. The aperture is on the upper half of the front side. There is a thin lining of long hair. There were four eggs. Three are typical eggs of *P. sonitans*, ground-colour pale red, heavily marked or suffused with a deeper shade of red which almost conceals the ground-colour. They are highly glossy, and the shape of two is ovate, that of the third being a somewhat rounded ovate. They measure $0''{\cdot}63 \times 0''{\cdot}47$, $0''{\cdot}61 \times 0''{\cdot}48$, $0''{\cdot}6 \times 0''{\cdot}48$.

The fourth egg found in this nest is nearly twice the size of the others, and must, I think, be that of *Cuculus intermedius*. The finder of the nest said it was a double-yolked egg, but, if the size of *P. sonitans* be considered, that is impossible. The ground-colour of this egg is much lighter than that of the others, and it is heavily but very distinctly mottled with a shade of red, darker and of a more brick-red tint than that with which the small eggs are suffused. The shape is oval, both ends being blunt and one end only very slightly smaller than the other. The texture of the shell is coarser and is not nearly so glossy. It measures $0''{\cdot}82$ by $0''{\cdot}58$.

These four eggs were somewhat incubated.

14. Prinia inornata Sykes.

Abundant in the Tamsui district. A great many nests and several clutches of eggs were brought to me during the last ten days of June. The ground-colour of the eggs is a pale greenish turquoise-blue, with, in one clutch, a pattern of round spots and a few splashes of several shades of rich madder or reddish-brown with underlying pinkish lilac blotches. Others have large blotches of pale reddish brown, irregular spots of several shades of rich red or madder-brown, and hair-lines; while a few have confluent spots round the thick end of the egg. All have underlying blotches or spots of pinkish lilac. Several eggs, since obtained at Foochow, have the ground-colour distinctly green.

Twenty eggs from Tamsui (all shapes) average 0″·61 by 0″·45. Several green eggs from Foochow average 0″·59 by 0″·43. Four blue ones are of same size as Tamsui eggs.

The nests obtained at Tamsui are like a deep pear-shaped bag or purse, and are attached by a thin upper back wall to leaves of the sword-grass in which they were found. They are made of fine strips of grass, closely and strongly woven and knitted together, and are very strong and elastic. The Foochow nests are of several shapes, some fairly open, some with only a small hole at the side.

15. CISTICOLA CURSITANS Frankl.

Abundant in the Tamsui district. It breeds on the downs near the foreign houses at Hobé, and also on the North Hill (alt. 2600 feet), where, on 28th April, I shot specimens in full summer-plumage.

16. CISTICOLA EXILIS (Vig. & Horsf.).

Calamanthella volitans Swinh. Journal N. C. B. Royal Asiatic Society, 1859.

Common on the hills in the Tamsui district. I obtained three examples in winter dress on 25th November, 16th December, and 28th January, and two in summer dress (plumage described by Swinhoe) on 1st and 17th May.

17. SUTHORA BULOMACHUS Swinh.

Probably abundant on the hills, but I have met with them on only four occasions. They frequent, as a rule, grass-jungle on the hills. Twice I met them close to houses, travelling in company with *Pomatorhinus musicus, Stachyridopsis ruficeps,* and other small birds.

I have no hesitation in referring to this bird a nest and two eggs obtained on 25th June. The eggs are short, very blunt ovals; they are of a turquoise-blue colour, and measure 0″·65 by 0″·55.

The nest was apparently placed on reeds, two twigs of which are still adhering to it. It is a neat little cup, made of bits of leaves and coarse grass, bamboo-leaves, strips of bamboo-skin and finer grasses, and bound together with grass-fibre, spiders' webs, and some bits of yellowish silk, which also appears on nests of *Suthora webbiana*, obtained at Kuatun in N.W. Fohkien. The rim of the nest is well finished and rounded, and adorned with white patches of spiders' webs. The lining is of very fine brownish grass or fibre of some kind.

Depth of egg-cavity 2″; inner diameter about 1″·7; outer diameter at rim of nest about 3″, and extreme outer diameter about 3″·5.

18. CINCLUS MARILA (Swinh.).

Hydrobata marila Swinh. Journal N. C. B. Royal Asiatic Society, i. p. 227 (1859).

Six examples, four adult and two young in first plumage, were collected near Tokoham in January and March. At Chioh Meng, where the river leaves the mountains, many were seen on the stony reaches of the river.

Compared with the Fohkien Dipper, this bird appears to be very clearly distinct. It is perhaps smaller on an average; the bill is smaller and more slender, ·75″ against ·85″ in Fohkien examples, and the general plumage is somewhat paler.

The two above-mentioned young birds differ from a young *C. pallasi* from N.W. Fohkien in the following particulars:—

The upper parts are of a lighter brown; a few of the scapular-feathers have a part of the subterminal light band white; the quills are more broadly margined with white; the lesser wing-coverts are largely tipped with white along the carpal edge; the larger wing-coverts are also rather distinctly tipped with white; the axillaries and under wing-coverts are brownish-grey, broadly edged with white; the feathers of the cheeks, chin, and throat have whitish centres producing a speckled appearance; the breast-feathers have subterminal pale brown or dingy buff bands, and the rest of the underparts is barred with whitish instead of the deep buff of the Fohkien bird. Wing, ♂, 4″; ♀, 3″·8; bill 0″·75.

19. RHYACORNIS FULIGINOSA (Vig.).

One seen about a torrent at foot of North Hill. It is common on the river near Tokoham.

20. Ruticilla aurorea (Pall.).

Common during winter at Hobé.

21. Phylloscopus borealis (Blas.).

One specimen shot near Hobé out of a party on 6th January. The underparts have a strong wash of yellow. Wing 2″·4, bastard primary 0″·4.

The fact of a flock of these Willow-Warblers being found in Northern Formosa in the depth of winter leads one to suppose that this species is a regular winter visitant to the island. The only other Willow-Warbler seen by me in Northern Formosa was believed at the time to be *P. superciliosus.* The calls of sundry Willow-Warblers were heard on several occasions during the spring, but the birds themselves were not seen.

22. Cettia canturiens (Swinh.).

These birds seem to be common during winter in the Tamsui district. There were a great many to be seen or heard during March at Hobé, and they disappeared towards the end of April. On the big banyans that overhang the village at Hobé they could be seen every day, and in April the loud note of this bird was constantly heard from among the brushwood. The call sounds like "koloko-wichit" or "kolo-olo-olo-wichit-chit."

All the examples collected in winter and spring proved on dissection to be males.

23. Cettia minuta (Swinh.).

Three specimens collected during the winter. I have generally seen these birds in the company of *C. canturiens.* At Hobé they were rare, but near Tokoham, during January, they appeared to be plentiful, and two or three were often seen hunting together among the brushwood.

24. Horornis squamiceps Swinh.

Two shot on 28th October and 2nd December. One was flitting about the top branches of a tall bush in a wood, and the other was busy hunting on the ground under bushes.

25. Motacilla leucopsis Gould.

Common during the winter, and no doubt resident in Northern Formosa, as I have a young bird of the year shot near Hobé on 27th April.

The black on the fore-neck and breast of three examples shot in November (Southern Formosa) and in January and March (Northern Formosa) is quite as much developed as in breeding examples from Fohkien. The back is also pure black. I do not remember seeing grey-backed birds in winter. Anyhow, I was much struck by the pure black backs of the birds observed. In Fohkien grey backs are far commoner than black backs during the winter.

26. Motacilla ocularis Swinh.

Common during the late autumn; probably a winter visitant. I have two examples shot on 24th February and 27th March. The latter bird is in moult.

27. Motacilla taivana (Swinh.).

One of the commonest birds in Formosa during winter. Three examples shot in March near Hobé are in moult, and are beginning to assume the adult breeding-plumage. One shot on 7th April has the underparts bright yellow with only here and there a white feather of the immature plumage.

On the 28th May I saw at Hobé a small flock of green-backed Wagtails with bright yellow underparts. They were probably of this species.

28. Motacilla melanope Pall.

Seen in winter on the plains and in the mountains near Tokoham.

29. Anthus maculatus Hodgs.

Observed for the first time on 19th November, after which their numbers increased, and during the winter they were very common in the acacia-woods.

30. Anthus cervinus (Pall.).

Very abundant throughout the winter. Specimens in full moult shot in March and on 7th April.

One specimen shot in winter had been feeding on paddy.

31. Anthus richardi Vieill.

There were always a few of these Pipits to be seen during the winter on the downs behind our house at Hobé. They were fond of perching on the telegraph-wires and were very wild. Four specimens were obtained; the last was shot on 25th March and was in moult. I heard one on 21st April. The examples collected belong to the larger race that winters in Fohkien.

32. Hypsipetes nigerrimus Gould.

Very few, if any, of these birds are found near Hobé in winter. I saw one on the North Hill on 4th November, but did not see any more till the 17th February. After this date they became common in the country, and a few pairs settled at the port, where, I believe, they nested on the banyans and higher trees.

A nest was brought to me by the old man who used to collect for me on the 25th June. It contained three eggs slightly incubated. The ground-colour of these eggs, originally a lovely orange-pinkish white, has now faded to a dull pinkish white. Two of the eggs have irregular spots, of two or three shades of brown (one nearly black), chiefly gathered at the thick end in an irregular ring, and have underlying blotches of a bluish-grey colour. In the other egg the spots are spread over the whole egg, but are rather more numerous about the thick end. The shape of these eggs is a slightly elongated oval. The texture of the eggs is smooth and glossy. They measure $1'' \times 0''{\cdot}7$; $1''{\cdot}02 \times 0''{\cdot}72$; $1''{\cdot}05 \times 0''{\cdot}73$.

The nest is made of bamboo-leaves, twigs, and (on the outside) of moss, with a few cobwebs attached. It is lined with pine-needles and very fine twigs or leaf-stalks. It is a shallow cup, about $1''{\cdot}5$ deep; inner diameter about $3''{\cdot}5$, outer diameter about $5''$. This nest bears a general resemblance to two of *H. leucocephalus* from Fohkien.

33. Pycnonotus sinensis (Gm.).

I procured eggs of this abundant species on 19th May and on 1st July. The former were much incubated; the latter were quite fresh, and were three in number. The ground-colour of the eggs composing this clutch is a very pale mauve, almost white, speckled with lake spots over lilac-grey underlying spots. The markings are more numerous on the large end of the eggs and form a cap. The shape is ovate. Size 0″·9 × 0″·62, 0″·85 × 0″·62, 0″·83 × 0″·6.

A nest obtained at Hobé is made of sword-grass flower-spikes with an inner foundation of leaves and bamboo-leaves, the primary foundation of the nest being the sword-grass flower-spikes with the down still attached. It has a lining of fine rootlets. Depth of egg-cavity 2″; outer depth of nest 3″·5; inner diameter about 2″·6; outer diameter at rim 3″·8; largest outer diameter about 5″.

Another nest from the same locality is similar to the above, but is without the primary foundation, and the lining is of stripped sword-grass flower-spikes. The egg-cavity is rather deeper.

Both the eggs and the nests of this Bulbul vary considerably, the former in shape, in depth of colour, and in the size of the spots, and the latter in the material employed.

34. Oriolus diffusus Sharpe.

This Oriole remains very late in Northern Formosa and reappears early in spring. It winters in Southern Formosa.

35. Buchanga atra (Herm.).

Abundant and resident in Northern Formosa.

36. Lanius schach Linn.

Also abundant and resident. One that frequented our compound at Hobé delighted in perching on the top of the lighthouse, or on the top branches of one of the bigger trees, and in giving us in rapid succession the song or calls of all the common birds of the locality.

37. Lanius lucionensis Linn.

Observed at Hobé on 11th November, and once or twice during the winter. I shot an adult specimen on 23rd

February, and saw during the spring a few other small Shrikes, which appeared to be of this species.

38. Niltava cyanomelæna (Temm.).

A female shot in a wood on North Hill on 28th October.

39. Hypothymis azurea (Bodd.).

A common resident species in Northern as in Southern Formosa. I noticed it at Hobé in the spring, and believe that, like *H. nigerrimus,* a few pairs come to breed about the settlement.

40. Hemichelidon sibirica (Gm.).

One shot on North Hill on 4th November.

41. Tarsiger cyanurus (Pall.).

A young male shot on North Hill on 28th October. One or two others were seen in the district.

42. Hirundo gutturalis Scop.

I believe that this Swallow winters in Formosa in some numbers. I have seen it in Northern Formosa till late in the year, and it appeared again early in the following spring.

43. Hirundo striolata Temm. & Schl.

Resident and common in North-western Formosa. The Chinese, in whose houses these Swallows and the Chimney Swallows breed freely, will on no account allow the nests to be disturbed.

A pair built their nest in the doctor's verandah at Hobé. It was placed against the back wall where the wall met the ceiling, and was a retort-shaped structure. Both birds worked at the nest.

The striped Swallows seen in South Formosa (Ibis, 1895, p. 334), and doubtfully referred to *H. nipalensis,* no doubt were of this larger race.

44. Cotile sinensis (J. E. Gray).

Seen on the Taipei-fu plain and near Tokoham in winter. One was shot on 21st February.

45. Zosterops simplex Swinhoe.

One of the commonest birds in North-western Formosa.

I procured several nests said to belong to this species. They all appear to have been placed on bamboos. I have also a clutch of three eggs which I refer to this bird. These are of a very pale greenish-blue, unspotted, and measure 0″·7 × 0″·47, 0″·67 × 0″·46, 0″·64 × 0″·45. The shape is a rather elongated ovate, apex sharp.

46. ALAUDA SALA Swinh.

Alauda sala Swinhoe, Ibis, 1870, p. 354.

These Larks are very common in Northern Formosa. I found a nest on the downs behind our house on 12th May. It contained three fresh eggs. The nest was made of grass closely woven together and worked into the live grass. It was not quite on a level keel, and was partly sheltered on the north-east side by a thin clump of weed. The ground-colour of the eggs is greenish white, and they are thickly speckled with light brown and grey, the specks forming in two of the eggs a fairly distinct ring round the thick end. The shape is a somewhat short ovate. They measure 0″ 86 × 0″·63, 0″·85 × 0″·63, and 0″·83 × 0″·62.

47. EMBERIZA SPODOCEPHALA Pall.

This Bunting was very common in Northern Formosa during the winter, and specially so in March and April. Adult males seemed to be more abundant than on the opposite mainland.

48. PASSER MONTANUS (Linn.).

A clutch of five eggs of this bird was brought to me at Hobé on 16th June. These eggs are white, with sepia-coloured longitudinal splashes or spots over grey underlying spots, and resemble specimens from Fohkien.

I have a variety of this Sparrow, shot by a friend at Hobé. In this bird the maroon-brown of the head and upper wing-coverts of the normal bird has become light red, the black markings of the upper back, sides of face, and throat are brown, and the lower back, wings, and tail are of a light buff or pale straw-colour. The bill was reddish, eyes brownish red tarsi and feet pale brownish red.

49. Munia acuticauda Hodgs.

50. Munia topela Swinh.

Both these Munias are very abundant. I obtained eggs and nests during May and June.

51. Coccothraustes melanurus (Gm.).

A fine male visited our garden at Hobé on 16th April. It flew about the compound excitedly, and kept calling to a caged bird of the same kind in the verandah. It was possibly an escaped cage-bird.

52. Spodiopsar cineraceus (Temm.).

Very common in the Tamsui district during the winter. One was shot on the 25th March. I did not notice any after this date.

53. Acridotheres cristatellus (Linn.).

The Crested Mynah seems to be even rarer in Northern Formosa than in the south of the island. I saw six at Tokoham in January, and a pair came flying about our house at Hobé in the spring of 1895. They appeared greatly excited and flew wildly round the house, being joined, after a short time, by my three tame birds of the same species. The five birds had several flights together, and at last the new arrivals flew off across the river accompanied by one of my birds, which returned alone after a few minutes' absence.

The above-mentioned tame Mynahs were taken from the nest and reared in Amoy. During my stay at Tamsui they became so tame as to follow me for some distance when out for a walk. Two of them paired early in the spring. The female was the first to make advances, and for a long time was beaten off by the cock bird. On putting up a box for them on a wardrobe in my bedroom they adopted it at once, and built a ragged nest of straw, sticks, and all kinds of rubbish. The first egg was laid on 16th May, after which I found it lying broken in the verandah. Three other eggs were laid in odd corners of the room or verandah. The pair became very fierce as soon as the first egg was laid, and attacked any one who came near the nest. There used to be such desperate fights between the paired birds and the unmated one, a female, that I had to keep them separate.

54. Corvus macrorhynchus Wagl.

An example shot on the Taipei-fu plain in March does not appear to differ from Fokien birds.

Crows are unknown at Hobé, but they occur in small numbers on the Taipei-fu plain. I saw a small flock near Tokoham in January. I did not see a single Magpie during my seven months' stay at Tamsui, nor did I notice any at Tokoham.

55. Dendrocitta formosæ Swinh.

Seen on the savage border near Tokoham.

56. Urocissa cærulea Gould.

I found this bird to be common in the hills near Tokoham. Among their calls they have the musical "pink, pink" of the Chinese *Urocissa.* They travel in small flocks and would appear to have much the same habits as *U. sinensis.* A flock of these magnificent Blue Magpies flying about the face of a steep mountain or cliff is a sight to be remembered.

One of the four specimens collected at Tokoham has a single white feather on the head; another has one on the back.

57. Cypselus subfurcatus Blyth.

A flock of small Swifts was seen at Hobé on 27th May. It was dull and rainy at the time. I did not see them again.

58. Caprimulgus stictomus Swinh.

A Goatsucker was to be seen for several days in November near the British Consulate at Hobé. I neglected to secure this bird and did not see another again.

59. Alcedo bengalensis (Gm.).

Very common.

60. Cuculus intermedius Vahl.

Cuculus kelungensis Swinhoe, Ibis, 1863, p. 394 (?).

This Cuckoo summers in the Tamsui district, and is very common in spring and early summer. I obtained my first specimen on 6th April, and whenever I went to the North Hill after that date I either saw them or heard them calling. The note is loud and deep in tone, and may be expressed in writing as "Hoo-hoo, hoo-hoo." It is repeated for some minutes at a stretch, and when heard from a distance is not unlike the far-away barking of a dog.

The stomachs of the five examples collected were full of hairy caterpillars.

The wings measure from carpal joint—7″·2, 7″·2, 7″·3, 7″·3, and 7″. All are males. The only variation in plumage is in the spots on the central rectrices. In one example these are entirely absent.

61. Centropus bengalensis (Gm.).

A very common bird in Northern Formosa.

I have two breeding females obtained on 1st May and 16th June. The stomach of the former contained beetles, that of the latter held a collection of stick-insects and a lizard.

Two eggs, said to be of this bird, were brought to me at the beginning of June. I have little doubt as to the authenticity of these eggs, as they answer to the general description of Crow-Pheasants' eggs. They are of a dirty white; in shape one is ovate with rounded apex, the other is a rounded ovate with very blunt apex. Texture of shell chalky. They measure 1″·27 × 0″·97, 1″·22 × 0″·95.

62. Scops japonicus Swinh.

Two male examples, one light grey and one dark grey, were obtained at Hobé on 1st November and 19th February. Both were caught at night in houses. A specimen in red plumage was sent to me from Takow by Dr. Henry, who had caught it in his house. This appears to be a young bird, as one downy feather of the nestling-plumage still remains on the head. The female collected at Bangkimtsing in 1893, and recorded in 'The Ibis' of 1895, p. 337, as *S. pennatus,* belongs to this species. These four skins were kindly identified for me by Mr. F. W. Styan.

63. Scops glabripes Swinh.

An example of this species bought on 7th March.

A large Owl (*Bulaca newarensis*?) occurs in the mountains of North Formosa. One was kept alive in a cage for some time by one of the foreign merchants at Twatutia. I only heard of it some days after it had died and the body had been thrown away.

64. Pandion haliaëtus (Linn.).

One was seen flying over the river at Hobé.

65. Circus æruginosus (Linn.).

Common in winter on the Taipei-fu plains.

66. Circus spilonotus Kaup.

I have a fine male, not quite mature, shot by Mr. Siebenman, of Twatutia, in January.

67. Spilornis cheela (Lath.).

A Hakka soldier on the savage border near Tokoham showed me the wings, bill, and legs of an Eagle, shot by him with his rifle, which was probably of this species. As Eagles were always being seen circling high overhead, I was in hopes of getting one, and neglected to secure the relics offered to me.

Spizaëtus nipalensis also occurs, no doubt, in these mountains.

68. Accipiter nisoides Blyth.

A young female was given to me by a friend in December. Length about 12″·5, wing 7″·25. Iris yellow, legs yellow.

I saw Sparrow-Hawks on North Hill on 17th February and 27th April.

69. Falco peregrinus Linn.

A Peregrine Falcon was seen on several occasions during February on a cliff by the river.

70. Falco tinnunculus Linn.

Very common during the winter.

71. MILVUS MELANOTIS T. & S.

Common all the year round. They probably breed on North Hill.

72. TURTUR CHINENSIS (Scop.).

Very uncommon at the port, but abundant inland.

73. PHASIANUS FORMOSANUS Elliot.

Not at all common near the port. Seen once on North Hill on 28th April. It is said that in former years Pheasants were often seen and shot near Hobé. Advancing cultivation has driven them away.

74. EUPLOCAMUS SWINHOII Gould.

This beautiful Pheasant is sometimes brought for sale to Taipei-fu. It is said to be rare in the North of Formosa. A friend of mine was told by the late Mr. Holst that it was very common in the mountains of Central Formosa.

75. BAMBUSICOLA SONORIVOX Gould.

Common on the hills, but owing to the thick cover it is impossible to get at them.

A large Quail flushed out of a paddy-field near Hobé appeared to me to be a Common Quail (*Coturnix communis* or *C. japonica*).

76. EXCALFACTORIA CHINENSIS (Linn.).

I flushed once a little Quail near Hobé that was, no doubt, of this species.

77. TURNIX TAIGOOR Sykes (?).

A Bustard-Quail is common in Northern Formosa, but I secured only one specimen, a female. It was shot on 13th January just behind our house at Hobé, on the downs, where in former years it seems these small Quails were numerous.

This bird is described in 'The Ibis,' 1896, p. 494. It matches almost exactly in colour and markings a male from Southern Formosa, which again is very like a male from the Straits Settlements in Mr. C. B. Rickett's collection. It is very likely a young female of the year.

XXXIII.—*List of a small Collection of Birds made in the Vicinity of Lahej, in Southern Arabia.* By Richard Hawker, F.Z.S.

While waiting at Aden and preparing for an expedition into Somaliland, I made a hurried visit to Lahej, where I was able to stop only for two days (October 25th and 26th, 1897). During that time, however, I was fortunate enough to secure examples of four species of birds which do not appear in Colonel Yerbury's list of Aden birds (Ibis, 1896, pp. 13–41), viz. the Lanner (*Falco feldeggi*), the Ruff (*Machetes pugnax*), the Greenshank (*Totanus canescens*), and the Pintail Duck (*Dafila acuta*). In the following list of the sixteen species represented in my collection I have followed the arrangement of Colonel Yerbury's paper.

1. Melierax polyzonus (Rüpp.); Yerbury, Ibis, 1896, p. 15.

Two specimens: an adult (base of bill dark orange, tip black; feet dark orange; iris brown) and an immature bird (bill dark horn-colour; feet yellow; iris pale yellow).

These birds, in their flight, reminded me very much of Harriers in the way in which they quartered the ground when hunting.

2. Falco feldeggi Schl.; Sharpe, Cat. B. Brit. Mus. i. p. 389 (1874).

A male, not quite adult. "Base of bill pale blue, tip dark; feet yellowish white; iris brown."

3. Merops cyanophrys (Cab. & Heine); Yerbury, t. c. p. 19.

Two specimens: male and female. "Iris brick-red."

This Bee-eater seemed to prefer the vicinity of trees to hunting in the open.

4. Merops persicus Pall.; Yerbury, t. c. p. 19.

Two males. "Iris brick-red."

5. Lanius lahtora Sykes; Yerbury, t. c. p. 21.

A male. "Bill and feet black; iris brown."

This bird was rather common in the thorn-jungles around Lahej.

6. Argya squamiceps (Cretzschm.); Yerbury, t. c. p. 23.

A female. "Bill and feet light ochre; iris brown."

I found these birds among the cotton-bushes. They were in families of five or six, and seemed to prefer running to flying.

7. Burnesia gracilis (Cretzschm.); Yerbury, t. c. p. 25.

A male. "Iris and eyelids light hazel."

8. Pycnonotus xanthopygius (H. & E.); Yerbury, t. c. p. 23.

A female. "Bill and feet black; iris dark brown; eyelids white."

9. Passer euchlorus (Licht.); Yerbury, t. c. p. 27.

A male. "Iris light hazel."

This bird was associated with *Passer domesticus.* I shot it out of a flock along with several of the latter species.

10. Passer domesticus (Linn.); Yerbury, t. c. p. 28.

Two specimens. "Iris brown."

11. Pyrrhulauda melanauchen (Cab.); Yerbury, t. c. p. 29.

A male. "Bill slate; iris brown."

I saw many of these birds along the camel-track between Sheik Othman and Lahej. They were very tame, and were feeding on the grain which had fallen from the camel-loads.

12. Œna capensis (Linn.); Yerbury, t. c. p. 30.

Two males. "Bill and feet red; iris brown."

I saw only one small flock on the stubble-land.

13. Pteroclurus exustus (Temm.); Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 12 (1893).

Pterocles exustus, Yerbury, t. c. p. 30.

Three specimens. "Bill and feet slate-colour; iris brown."

14. **Machetes pugnax** (Linn.).

A female. "Bill black; feet yellowish brown; iris brown."

This bird was shot on the mud of an irrigated field.

15. **Totanus canescens** (Gm.).

No. 5, ♀. Lahej, October 25th, 1897. "Bill black; feet greenish grey; iris brown."

This bird was found feeding in the mud of an irrigated field along with other Waders.

16. **Dafila acuta** (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 270.

Two females. "Base of bill grey; feet and toes grey, webs black; iris dark brown."

XXXIV.—*On the final Collections of Birds made by Mr. Alexander Whyte, F.Z.S., in Nyasaland.* By Captain G. E. Shelley, F.Z.S. *With Prefatory Remarks by* P. L. Sclater, M.A., Ph.D., F.R.S.

I. Prefatory Remarks, by P. L. S.

[The present paper contains Capt. Shelley's list of the species represented in the final collections made by Mr. Whyte for Sir Harry Johnston in Nyasaland, previously to his return home last year. The specimens, altogether 264 in number, are referred by Capt. Shelley to 132 species. Of these none are new to science, but 24 are additional to the species already recorded in Capt. Shelley's previous papers on Mr. Whyte's birds.*

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* The titles of these papers are as follows:—

(1) List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. Shelley, F.Z.S., with a Preface by P. L. Sclater. Ibis, 1893, p. 1, pls. i.–iii.

[Report on 430 specimens, referred to 134 species, of which 12 were described as new.]

(2) Second List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. Shelley, F.Z.S. Ibis, 1894, p. 1, pls. i., ii.

[Report on 1030 specimens, referred to 205 species. Of these 9 were new, and 102 were not represented in the first collection.]

As will be seen by the localities in Capt. Shelley's list, which are always noted, the greater number of the specimens in the present series were obtained on Mount Zomba or in the immediate vicinity. But it also embraces the collection formed by Mr. Whyte during an excursion which he made to Mount Mlosa, to the west of Zomba, in November and December 1896, concerning which Mr. Whyte has kindly supplied me with the following particulars:—

"I started on a collecting-trip to Mount Mlosa on the 9th Nov. 1896, and spent ten days on the range on that occasion. Finding the plateau more than usually interesting, I revisited it a month later, and procured a second and good collection of such plants as were not in bloom during my first visit, as also additional specimens of mammals, birds, and other animals.

"Mount Mlosa is a well-defined, imposing, and precipitous mountain, separated from Mount Zomba by the deep gorge and valley of the Domasi river. At the lower end of this gorge is situated the Domasi Mission Station of the Church of Scotland, where many of the Europeans of the Shiré Highlands have had their health restored, under the kind treatment and nursing of the Rev. Dr. Henry and Mrs. Scott.

"This mountain (Mlosa) is really a continuation of the range of hills which commences near to Fort Johnston, and running nearly parallel with the course of the Upper Shiré river, culminates in Mount Zomba at its southern extremity. The height of its plateau is about the same as that

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(3) Third List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. Shelley, F.Z.S. Ibis, 1894, p. 461, pl. xii.

[Report on several collections containing examples of 100 species. Of these one (*Agapornis lilianæ*) was new and 44 were additions to the Nyasaland list.]

(4) On a Collection of Birds from Mount Chiradzulu, in the Shiré Highlands, Nyasaland. By Captain G. E. Shelley, F.Z.S. With Prefatory Remarks by P. L. Sclater. Ibis, 1896, p. 177, pl. iv.

[Report on 40 specimens from Mount Chiradzulu, referable to 27 species, of which 3 were new to science.]

of Mount Zomba, from 5500 to 6500 ft. above the sea-level, with an average temperature, at my upper camp, of 72° F. during the day and 60° F. at night. During the cold months, May, June, and July, it must fall much below this, as I learned that severe frosts and even ice were occasionally experienced there. The scenery on the plateau is very fine, and the valleys are heavily wooded, much more so than is the case on the Zomba Plateau. These virgin forests, of from 2000 to 3000 acres in extent, will form a most valuable timber reserve, now that good-sized building trees are becoming scarce around Zomba. The transport too will be comparatively easy, as the railway of the future will skirt the base of this mountain on its way to the Upper Shiré.

"The surface of the plateau is, roughly speaking, basin-shaped, and is divided into two almost equal sections by a deep, heavily-wooded valley. The rolling downs on both sides are well covered with fine, short, sweet grass, and there is an absence of the fern and scrub so characteristic of parts of the Zomba Plateau. Wild plants were blooming in profusion, and now and again we came across dells of buttercups, helichrysums, and orchids. Mount Mlosa is extremely well watered, and is a perfect grazing country, where great numbers of stock could be raised.

"As to the fauna and flora, I was agreeably surprised to find them of much more interest than I had expected. From the mountain's proximity to Mount Zomba, I naturally supposed they would prove to be almost duplicates of that mountain. I discovered, however, numbers of plants which I had not met with before, and over a dozen birds new to me, including a fine Wood-Pigeon and two Quails, besides several small mammals. Large game-animals were almost wanting, the Bush-buck (*Tragelaphus*), formerly so numerous on the mountains, having been almost exterminated by the formidable wild dogs (*Lycaon pictus*), which hunt their prey in flocks and are very fierce and destructive."

As will be seen by reference to Capt. Shelley's list, examples of 47 species of birds were obtained during this expedition.—P. L. S.]

II. List of the Species, by G. E. S.

In the following list of the species represented in Mr. Whyte's collection the localities are added, and references are given to the pages of the 'Birds of Africa' where the name is mentioned.

Name.	Reference to Shelley's B. of Afr.	Locality.
	Page	
1. *Anthrothreptes longuemarii*	6	Zomba.
2. *Zosterops anderssoni*	7	Zomba.
3. *Parisoma plumbeum*	10	Zomba Plateau.
4. *Motacilla campestris*	11	Mount Mlosa and Mount Zomba.
5. *Anthus lineiventris*	12	Zomba.
6. —— *rufulus*	12	Mount Mlosa and Mount Zomba.
7. *Macronyx croceus*	13	Zomba Plains.
8. *Mirafra fischeri*	15	Zomba Plains.
9. *Emberiza flaviventris*	18	Zomba.
10. —— *orientalis*	18	Zomba.
11. *Petronia flavigula*	19	Zomba Plateau.
12. *Passer diffusus*	20	Zomba.
13. *Serinus icterus*	21	Mount Mlosa.
14. *Hypochera funerea*	23	Zomba.
15. *Coliipasser ardens*	23	Mount Mlosa.
16. *Pyromelana xanthomelana*	24	Zomba.
17. —— *flammiceps*	25	Zomba Plains.
18. *Quelea quelea*	25	Mount Mlosa.
19. *Spermestes scutatus*	28	Mount Mlosa.
20. *Granatina angolensis*	29	Mount Mlosa and Zomba Plains.
21. *Estrilda subflava*	30	Mount Mlosa.
22. *Lagonosticta rhodoparia*	31	Mount Mlosa.
23. *Hypargus niveiguttatus*	32	Mount Mlosa.
24. *Hyphanturgus ocularius*	38	Mount Mlosa.
25. *Xanthophilus xanthops*	39	Zomba Plains.
26. *Hyphantornis nigriceps*	40	Zomba.
27. *Oriolus larvatus*	41	Zomba.
28. *Pholidauges verreauxi*	42	Zomba.
29. *Lamprocolius sycobius*	43	Zomba Plains.
30. *Amydrus morio*	44	Mount Mlosa.
31. *Dilophus carunculatus*	46	Zomba.
32. *Prionops talacoma*	49	Zomba.
33. *Sigmodus tricolor*	49	Zomba Plains and Zomba.
34. *Graucalus pectoralis*	50	Zomba Plains.
35. *Fiscus collaris*	51	Zomba.
36. *Enneoctonus collurio*	53	Mount Mlosa, Mount Zomba, and Zomba Plains.
37. *Nilaus nigritemporalis*	53	Zomba Plains.
38. *Dryoscopus cubla*	55	Zomba.
39. *Pelicinius bertrandi*	56	Mount Mlosa, Mount Zomba, and Zomba.
40. *Crateropus kirki*	58	Zomba.

Name.	Reference to Shelley's B. of Afr.	Locality.
	Page	
41. *Criniger placidus*	63	Mount Mlosa and Mount Zomba.
42. —— *olivaceiceps* *	. .	Mount Mlosa.
43. —— *fusciceps*	63	Mount Mlosa and Mount Zomba.
44. *Chlorocichla occidentalis*	64	Chidawah Mountains and Karonga.
45. *Phyllostrophus capensis*	65	Zomba Plateau.
46. *Apalis flavigularis*	71	Mount Mlosa and Mount Zomba.
47. *Orthotomus erythropterus*	72	Mount Mlosa.
48. *Cisticola lugubris*	74	Mount Mlosa.
49. —— *strangii*	74	Zomba and Zomba Plateau.
50. —— *subruficapilla*	74	Mount Zomba.
51. —— *cinerascens*	75	Zomba.
52. —— *rufa*	75	Zomba Plateau.
53. *Melocichla orientalis*	76	Zomba Plains and Zomba.
54. *Bradypterus nyassæ*	77	Mount Mlosa.
55. *Acrocephalus arundinaceus*	79	Mount Mlosa.
56. *Phylloscopus trochilus*	80	Mount Zomba.
57. *Sylvia hortensis* (*simplex*)	81	Mount Mlosa and Zomba Plateau.
58. *Cossypha caffra*	84	Mount Mlosa and Mount Zomba.
59. —— *heuglini*	84	Mount Mlosa and Zomba Plateau.
60. *Tarsiger johnstoni* †	. .	Mount Mlosa and Mount Zomba.
61. *Turdus gurneyi*	88	Zomba Plateau.
62. —— *milanjensis*	88	Mount Zomba.
63. *Bradyornis murinus*	93	Zomba Plateau and Zomba.
64. *Muscicapa grisola*	94	Zomba.
65. *Chloropeta natalensis*	96	Mount Mlosa.
66. *Pachyprora dimorpha*	98	Mount Mlosa, Mount Zomba, and Zomba Plateau.
67. *Trochocercus albonotatus*	99	Mount Mlosa.
68. *Terpsiphone perspicillata*	99	Zomba.
69. *Hirundo rustica*	101	Zomba.
70. —— *puella*	102	Zomba Plains and Mount Mlosa.
71. *Cypselus apus*	105	Mount Mlosa.
72. *Tachornis parvus*	106	Zomba Plains.
73. *Caprimulgus fossi*	107	Zomba.
74. *Melittophagus meridionalis*	110	Mount Mlosa and Zomba.
75. *Merops apiaster*	111	Zomba Plains and Zomba.
76. *Rhinopomastus cyanomelas*	113	Zomba Plains.
77. *Lophoceros melanoleucus*	114	Zomba Plains.
78. —— *epirhinus*	114	Zomba Plains and Upper Shiré.
79. *Ispidina natalensis*	116	Zomba Plains and Zomba.
80. *Halcyon chelicutensis*	117	Mount Mlosa and Lakangula River.
81. *Colius erythromelon*	118	Zomba Plains.
82. *Turacus livingstonii*	119	Mount Mlosa and Zomba Plains.
83. *Schizorhis concolor*	120	Zomba Plains.
84. *Centropus nigrorufus*	122	Mount Mlosa and Zomba Plains.
85. *Coccystes glandarius*	123	Zomba and Zomba Plains.
86. —— *cafer*	123	Lakangula River, on the Zomba Plains.
87. *Cuculus solitarius*	124	Zomba.

* See Ibis, 1896, p. 179.

† See Ibis, 1896, p. 181.

Name.	Reference to Shelley's B. of Afr.	Locality.
	Page	
88. *Chrysococcyx cupreus*	124	Zomba Plains.
89. *Indicator minor*	125	Zomba Plains.
90. *Melanobucco melanopterus*	126	Zomba Plains.
91. —— *zombæ*	126	Zomba Plains.
92. *Smilorhis whytii*	128	Zomba and Lakangula.
93. *Barbatula bilineata*	128	Zomba Plains.
94. *Thripias namaquus*	133	Zomba.
95. *Vinago wakefieldi*	134	Mpala.
96. —— *delalandii*	134	Zomba Plains.
97. *Columba arquatrix*	135	Mount Mlosa.
98. *Haplopelia johnstoni*	136	Mount Zomba.
99. *Chalcopelia afra*	137	Mount Mlosa.
100. *Tympanistria tympanistria*	138	Mount Mlosa and Mount Zomba.
101. *Strix flammea*	141	Zomba Plains.
102. *Glaucidium perlatum*	142	Zomba Plains.
103. *Scops leucotis*	143	Zomba Plains.
104. *Bubo maculosus*	143	Zomba Plains and Lakangula River.
105. *Falco biarmicus*	145	Mpimbi on the Upper Shiré.
106. *Tinnunculus rupicola*	146	Mount Mlosa.
107. *Nisaëtus spilogaster*	149	Zomba.
108. *Buteo desertorum*	150	Mount Mlosa and Zomba Plateau.
109. *Asturinula monogrammica*	151	Zomba and Lakangula River.
110. *Melierax gabar*	151	Zomba Plains and Zomba.
111. *Astur polyzonoides*	152	Mpimbi (Upper Shiré) and Zomba Plains.
112. *Circus macrurus*	153	Zomba Plains.
113. —— *ranivorus*	153	Mount Mlosa.
114. *Pseudogyps africanus*	154	Zomba Plains.
115. *Herodias ralloides*	156	Zomba Plains.
116. *Butorides atricapilla*	158	Mount Mlosa.
117. *Rhynchops flavirostris*	164	Mpimbi.
118. *Dendrocycna fulva*	171	Fort Johnston, Upper Shiré.
119. *Porphyrio alleni*	175	Lake Shirwa.
120. *Crex crex*	176	Zomba Plains.
121. *Limnocorax niger*	177	Lake Shirwa.
122. *Corethrura lineata*	177	Mount Mlosa.
123. *Turnix lepurana*	178	Zomba Plains.
124. *Excalfactoria adansoni*	178	Mount Mlosa and Zomba Plains.
125. *Coturnix capensis*	178	Mount Mlosa.
126. *Pternistes humboldti*	179	Lake Shirwa and Zomba Plains.
127. *Otis melanogaster*	185	Mount Mlosa and Zomba Plains.
128. *Lobivanellus lateralis*	187	Zomba Plains and Fort Johnston.
129. *Stephanibyx inornatus*	188	Zomba Plains.
130. *Totanus hypoleucus*	192	Lake Shirwa, Mount Zomba, and Lakangula River.
131. *Gallinago nigripennis*	192	Mount Mlosa and Fort Johnston.
132. *Glareola pratincola*	195	Mount Mlosa.

XXXV.—*Narrative of a Visit to Somaliland in* 1897, *with Field-notes on the Birds obtained during the Expedition.* By E. Lort Phillips, F.Z.S.

(Plates VIII.–X.)

Early in January 1897 I returned to Somaliland accompanied by my wife, my niece (Miss Gillett), her brother (Mr. F. Gillett), Mr. G. P. V. Aylmer, Mr. Ivers Bland, and Mr. Guy Fremantle. I had engaged to assist me with my specimens a young taxidermist, Leonard Harwood, who, with Aylmer's man, George, completed our rather formidable party of Europeans. Our object was to explore the Goolis range to the eastward of Berbera as far as Mount Wagga*, to add, if possible, to the scientific knowledge of this part of Africa, and to avail ourselves, as well, of any sport obtainable along and beyond the reservation-line that has been drawn in so arbitrary a manner by the "powers that be" at Aden. At Berbera we were most hospitably received by Mr. Malcolm Jones, who was administering justice during the absence of the Resident, Capt. Merewether. He, with Mrs. Merewether, was on a shooting-trip in the interior. We pitched our tents, as before, on the little maidan or square, which is now adorned with a most practical native hospital, having separate wards for men, women, and children, the result of Capt. Merewether's energetic appeals to travellers and others on behalf of the Somali sick. Our stay at Berbera was short, as, with our former head man, Egga Nalaya, and several of our old camp-servants who "knew the ropes," we quickly got our camels, horses, and men together, though it entailed some really heavy work to equip so large a party. However, we had a little play in the form of some delightful rides in the evenings along the shore, returning in the brilliant moonlight, which threw an enchantment over everything, making even the little glary desert town look charming, with its waving palms and minarets. On January 23rd we made a short march to Dobar, where we halted one day, and spent most of our time in and around the garden. Alas! our old friend Farag, the ex-Egyptian black soldier, had gone the way of all flesh, his place being taken by a Yemen Arab. Among the Berbera jail-birds working in the garden we were shocked to find one of our former and best-behaved camel-men with irons on his legs. Of course, he assured us that he was the victim of false swearing, and was perfectly innocent of the charge against him, which was one of highway robbery with violence to the person. Poor Yessir, he certainly did not look like a brigand, and we could not help feeling sorry that he had, guilty or not guilty, fallen on such evil times, so we gave him the wherewithal to purchase a few luxuries, and left him muttering—fatalist, as they all are—"*Al Allah,*" "It is the will of God."

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* Most of our Stations will be found marked in the map of Northern Somaliland published in the 'Geographical Journal' for 1898, p. 112.

Leaving Dobar, we marched due west until we came to a gap in the hills, when we turned southward along the dry bed of the torrent that had made the "pass." At midday we halted for luncheon at our old camping-ground, Boosti, sending Egga on with the caravan with orders to have the tents up and tea ready by the time we arrived. Though Boosti is a parched, waterless place, it does not lack animal life. Dik-diks (*Neotragus phillipsi*) and ground-squirrels were plentiful, and there were several gazelles feeding within sight. Birds and butterflies were well represented, and a splendid Bateleur Eagle circled round and round us, uttering its weird cry. At nightfall we found our tents pitched among the tamarisk-bushes in a narrow defile called Daggach Dyair, the "Baboon Rocks," a name well chosen, as the next morning, before breakfast, a large troop of these brutes barked and grunted at us from the overhanging cliffs, while we, equally curious, turned every available glass upon our inquisitive visitors.

Our march that day followed the windings of a tiny stream, which at first was a mere thread, but by the time we neared its source (the big fig-tree at Bihen) it was quite a respectable little beck. In most countries a stream dwindles towards its source, but in parched and burning Africa the reverse is the case. We saw and shot several Waders and a Hammerhead. A pair of Egyptian Geese, however, which we badly wanted for the pot, escaped us, and as they flew past down stream we did not see them again.

We reached Bihen in capital time and pitched our tents just beyond the big fig-tree the roots of which are the cradle of the stream, the water bubbling up from among them slightly warm and beautifully clear. The little oasis was full of life, a flock of sheep and a few cattle were enjoying the bright green grass, while their owners were exchanging news with some traders from the interior, whose caravan was passing at the time on its way to Berbera. From them we heard that two white men were encamped at the bottom of the Sheikh Pass, some 15 miles south of us. Next morning Aylmer and Gillett started off to make the second known ascent of Dimoleh Mountain. Our former tent-servant and wag, Hersi-Shirreh, was not with us on this occasion, so he was spared the chance of an offer of two hundred pounds to accompany "Mr. Elmer" a second time, which he declared he would refuse sooner than face that fearful climb again. Soon after breakfast the two "white men" we had been told of arrived. They proved to be Messrs. Parkinson and Dunbar, who had been on a surveying expedition in the Wadi Nogal and Boor Dap district, a locality noted for the wildness of its inhabitants, who live by looting passing caravans that are not strong enough to protect themselves. These light-fingered gentry, not content with the lesson they had had from Col. Paget some years previously, swooped down and drove off Mr. Parkinson's camels while their owners were away shooting. By the greatest good luck, however, on their way to camp, they met the raiders with their booty, and recognizing their own beasts by the brand-marks, they were able, by "emptying a couple of saddles," to regain possession of the whole herd, and thus saved themselves from being stranded in a hostile country without the means of moving. Boor Dap (Fire Mountain) is a peak where a "look-out" is kept, and on which a lighted beacon warns the robber tribes of the approach of a caravan.

Mr. Dunbar is a young Scotchman of barely twenty summers, full of enthusiasm.

Aylmer and Gillett returned late, having had a long and fatiguing day ; their expedition, however, had been most successful, for not only had they discovered, on the west side, an easier way up than that by which Aylmer had made his first ascent in 1895, but they had also brought back some rare botanical specimens, one of which has proved to be unknown to science. The next day we sent the camels on, giving Egga orders to camp at Gello-kur, while we ourselves, as the march was a short one, lingered at Bihen and had luncheon under the big fig-tree. On arriving at Gello-kur we did not see the tents, but were surprised to find the little valley choked with a jungle of castor-oil plants, quite tall enough to have hidden a herd of elephants, had any been there. We thought this most extraordinary, for, though the castor-oil plant is far from uncommon, we had previously only noticed them dotted about singly among other bushes, while here was seemingly a regular plantation of them, and on ground where there were certainly very few, if any, when last we camped here. Curiously enough, the natives are quite ignorant of the virtues of this most useful plant in its rough state, but were loud in their praises of the manufactured article, of which we had a good supply. Much as we should have liked to have dawdled here with gun and net, we were obliged to push on, as it was uncertain where we should find the tents and it was already late, so we left Gello-kur (Place of the Little Bustard) for the second time with many regrets. We found the tents pitched on a bare and unattractive-looking spot, which boasted of the charming name of Warra Ballambal (the Plain of Butterflies), but the news which greeted us was most alarming. Harwood's pony, on being unsaddled, refused to go out to graze, and shortly after dropped down dead, with a nasty glary discharge at the nostrils. Everything pointed to glanders, and we were in terror lest our other mounts should be carried off in like manner. We had the body dragged some way off to leeward and hoped for the best. Very soon the hyænas had discovered the carcass, and it was evident that they were rejoicing over our misfortune. For them "the best" had already arrived, for us a few days' anxious watching proved that our fears were groundless. Next morning the trees and rocks were covered with various kinds of Vultures, while many more circled round the remains of the hyænas' feast, a grand sight for those among us who had never before seen these great birds at home. Load up and off again was the order of the day, as there was not a particle of shade in this place, nor were butterflies plentiful, in spite of its high-sounding title.

We were now within a short march of the Sheikh Pass, where a splendidly-engineered road leads to the upper ledges of the Goolis and to the vast elevated plateau called the Howd. A short march brought us to the first low spurs of the Goolis that run out into the Gooban or Maritime Plain; once within these the whole scene changes, and the traveller finds that he has exchanged the stunted mimosas of the burning Gooban for trees of considerable size, among which the candelabra-like euphorbias are most conspicuous; birds are seen and heard in all directions, while large new butterflies of the family Papilionidæ appear for the first time. We followed the course of a merry little brook for some three miles and pitched our camp on some rising ground by a huge fig-tree, as we heard that the old camping-ground at Hammar was now occupied by a stone guard-house for the protection of the pass. As we were anxious to get up into the cool air, we resumed our march again next day, and soon passed the new guard-house, which looked very comfortable. The ground about it had been enclosed, and an irrigation-trench had been cut above it to bring water from the stream for the use of the garden which was being laid out.

Our camels ascended the pass easily, as the road, good as it was in 1895, had been much improved since. On reaching the summit we turned to the left, towards the little white Marabout or Sheikh from which the pass takes its name. Beyond the tomb are some gigantic euphorbia-trees, close to which we pitched our tents on a piece of ground as smooth and level as if it had been laid out for polo. Doubtless this land was under cultivation ages ago, as close by are the ruins of what must have been a considerable town of stone houses, while thousands upon thousands of graves, the foot- and head-stones still standing, suggest a former large population. The next day Aylmer left us. Taking his tent and a few camels, he started off for Burao, on the edge of the Howd, where report said that lions were killing cattle. His start was, however, most unpropitious, for, as the loaded camels were waiting patiently and the last adieus were being made, Fremantle fired a shot at an Eagle, which caused a general stampede, and down came tents, water-barrels, and "ghee-" tins among the gravestones, with the result that several had to be returned into store.

As we were now beyond the reservation limit we unpacked our rifles, and the camp was soon decorated with skulls and horns. Our botanical and ornithological collections had been growing meanwhile, and several most interesting additions which have since proved new to science were made here.

On February 5th, leaving Sheikh, we turned eastward, and marched in the direction of Wagga Mountain, little dreaming how long it would really take us before we reached its cloud-capped summit. A short march through ideal-looking game-country brought us to a water-hole, by which we camped for the night. Luckily we had brought a supply of drinking-water from Sheikh for our own use, as the water here was of the most filthy description, being almost too offensive even to wash with. To our Somalis this was no hardship, and we watched them gulping it down with evident gusto. Again and again I have noticed that the Somalis seem utterly indifferent to the quality of their drinking-water, while with regard to their food they are "faddy" in the extreme. They will not eat the flesh of the Water-buck (*Cobus ellipsiprymnus*), or of the Gerenook (*Gazella walleri*), or of any bird, neither will they eat fish or eggs. Fishes, they say, are near of kin to snakes, which they hold in particular horror; while eggs, they allege, are not fit for food, being simply undeveloped birds. This, of course, does not apply to the coast

Somalis and to those living at Aden, where fish is abundant and is one of the staple articles of food.

At sundown the water-hole was visited by hundreds of Sand-Grouse (*Pterocles lichtensteini*) and a few shots secured a welcome addition to our larder. Next day we marched to Sogsoda, at the head of the Rugga Pass, where there is a permanent village of moolahs or priests, who live by contributions levied on passing caravans and by the cultivation of a little doorah and jowari.

Here we were greeted by a former camp-servant, Jama Deeria by name, whose gorriar or kraal was in the neighbourhood. Though we had found him rather a scamp, we were delighted to see him, as we had heard that he had lost his life while in the service of Major and Mrs. Renton, who had visited the country the previous year. It appeared, however, that we had had another Jama Deeria in our employ, a camel-driver, and it was this man of whose tragic death we had heard before leaving England—the details of which I will give as an illustration of the stealth, daring, and cunning of a hungry lion:—One night Major and Mrs. Renton were watching by a water-hole in the hope of getting a shot at a zebra. These creatures drink only at the first streak of dawn, so it meant a whole night out for the watchers. On the lady's account a strong circular thorn-protection had been built, and into this Major and Mrs. Renton retired at sundown with their man Jama Deeria, the entrance-hole being closed by a thick thorn-bush drawn into it and secured. In the middle of the night, which was an intensely dark one, Mrs. Renton, who had fallen asleep, woke up. Hearing heavy breathing and crunching of bones quite close to her, she awoke her husband, who had also been asleep, and getting no answer from Jama they struck a match and found to their horror that the man was gone. Meanwhile the cracking of bones continued, so several shots were fired in the direction of the sound, which only had the effect of moving the lion and his prey a little further off, where he continued his ghastly meal within hearing. The rest of the night was spent, as may be supposed, in watchfulness, and with the feeling of the dreadful possibility of another attack on the zareeba, though how the man had been got out of it it was impossible to tell by the feeble light of a match. However, when the welcome morning light appeared, a small opening was seen close to the ground, through which the wretched man had been drawn. The lion must have found this small aperture, and, reaching in his forearm, have dealt the sleeper nearest to him a swift, heavy blow, killing him instantly. He had then withdrawn the body so noiselessly that the other two inmates of the zareeba were not disturbed, and had he not commenced to devour his victim at once, the man's disappearance might not have been noticed for some hours.

We did not intend to remain at Sogsoda for more than three days, but the Fates were against us, as George, Aylmer's servant, caught an attack of fever which made us anxious, for quinine seemed unable to reduce his temperature, which continued very high. Luckily his master returned unexpectedly, and the next day the fever yielded to his superior medical skill.

Aylmer's expedition to Burao had not been a success so far as lions were concerned. Lions certainly had been there, but they had shifted their quarters by the time he arrived. Wagga Mountain, the goal of our expedition, was only some fifteen miles distant; yet, now that we were so near, it seemed that our hopes of camping on its summit were to meet with disappointment. Egga, our head man, who had been confident before, now suddenly found the project bristling with difficulties, the most alarming of which was that if there were a path, which he doubted, our camels would never get up with their loads. He also assured us that Captain Swayne, the only Englishman who had ever visited the mountain, had done so from where we camped and had returned the same day, a statement which we found hard to believe. However, for the present there was no idea of moving camp, owing to George's illness, so Bland and I started one morning at daybreak on a voyage of discovery, taking with us the two riding-camels and two men. Having crossed a barren bit of country resembling downs, where we saw and secured several specimens of the Somali Courser (*Cursorius somaliensis*), the first we had met with, we came to a gorriar or native village, outside which a man was lying in the sun. To all our questions he returned the same answer, viz. that he was a "stranger" newly arrived and that he did not know the country, also that he was too busy (!!) to come with us, even the sight of rupees having no power to move him. Leaving our surly friend to his arduous duties, we pushed on and turned up a long narrow valley which led to the foot of the mountain, at the end of which we found another gorriar, the inhabitants of which turned out to inspect us as we came up. Curiously enough these people were also strangers (!!!) and declared that they had only just arrived from the Howd a few days before, and that they knew nothing of the cloud-covered mountain towering above them. From where we stood, a well-defined track could be seen leading upward till it was lost in the mist; so, leaving one man in charge of the camels, we began the ascent on foot. The track, though steep, was fairly good, and we noted with pleasure that it was used by camels, a fact which lifted a weight from our minds, for where loaded camels could go our camp could go also. Three-quarters of an hour's climb brought us to the edge of a sort of crater or hollow depression, the sides of which were covered with sheep and goats, while some horses and camels were feeding near a gorriar that was just discernible through the mist. While picking our way among the boulders towards the village we suddenly came upon a shepherdess in the person of an ancient hag, who was cowering below an overhanging rock and had not noticed our approach. At first she seemed paralyzed with terror; but, gathering her wits, she set off towards the gorriar, screaming at the top of her cracked voice, at a speed that did her the greatest credit. Her shrill cry soon brought the men out of the huts, but to whatever motive they may have attributed our presence, they certainly welcomed us and offered us milk, of which we stood greatly in need. I may as well state here a fact of which we ourselves were not aware till some weeks later—namely, that the people inhabiting this mountain, the Moosa Jibreel, a sub-tribe of the Eesa Moosa, had lately been indulging in looting passing caravans, for which offence several of their number were now in irons in Berbera, while several more were particularly "wanted," and among those the genial old gentleman whose hospitality we were then enjoying. It appeared afterwards that they had been warned of our intention of ascending the mountain, and as their guilty consciences suggested that we represented the strong arm of the law, they had done their best to thwart our object, even to intimidating our own men. Hence all the difficulties of which we had been told, as well as the extraordinary ignorance of the country displayed by all from whom we sought information. Bland and I, however, were happily ignorant of the real feelings of our hosts, who not only showed us their water-supply and the best camping-ground, but also promised to help our caravan up the steep pass with their mountain-bred camels, so that we returned to camp greatly elated with the success of our expedition.

A few days later, George being considered well enough to travel, we left Sogsoda and marched to the base of Wagga, where we awaited the arrival of our mountain friends with their promised assistance; it required, however, two interviews, and the acceptance on our part of two presents of milk, before sufficient confidence was established and the welcome camels made their appearance. Meanwhile Aylmer and Gillett, having completed their arrangements, left us and struck out into the Howd towards Eyk in the hope of finding lions, and we did not meet again till we arrived at Dobar, eight miles from Berbera. The camels that old Osman and his son Artan brought were magnificent creatures, and, from having been bred on the steep sides of Wagga, they had developed muscles that are entirely wanting in the heavy "ships of the Desert" used only to the level plain, and it was to the latter class that our own animals belonged, so that we soon saw that without help we should never have accomplished our object. The name of the hollow before mentioned was Hankadeely. Here we pitched our camp in a grove of giant euphorbias and spent three delightful weeks. For the men there was a certain amount of shooting, while for the ladies there were expeditions to be made in all directions amid scenery that would be hard to beat. With the exception of old Osman and his sons the other Moosa Jibreel were rather shy of us at first, but this wore off after a bit, and they brought in supplies of milk for sale, which was a great boon both to us and to our men. The latter constructed capital houses for themselves out of boughs of trees and camel-mats, and, as it was the fast of Ramadan, they spent all their time learning both to repeat and to write prayers, from a widat or priest who had been "laid on" for the occasion. Sheets of writing-paper were in great request as well as pieces of board from old packing-cases—the latter, planed smooth, taking the place of slates. On March 4th, the last day of the fast of Ramadan, a day of great rejoicing in the Mahomedan world, we celebrated the occasion by a general feast and athletic sports, to which the Moosa Jibreel were invited, rather against the wishes of our own men, who could not bear them, though they did not care to show it. The day, however, was a great success and terminated happily without any quarrels or heartburnings, the wily priest arranging with the men that all the prize-money had better be given over to him for "the glory of God," to which proposal, as good Mahomedans, they readily assented. The next day we packed up and descended to the Howd plateau, camping at Gedaïs, where we found several large pools of water connected by a tiny stream. Here we anxiously awaited the arrival of the post, hoping that it would bring an extension of leave for Fremantle, who otherwise would have to leave us to rejoin his regiment. The post-bag, however, contained no reprieve, so he started homewards alone, to our great disappointment.

The next day, while far from water, we came across a wretched woman in the last stages of exhaustion, having been without food or water (according to her own account) for 12 days. The poor creature was suffering from a tumour in the knee, and being unable to walk she had been left behind by her inhuman relations when they had shifted their camping-ground. Why she had not been devoured by hyænas was a mystery, as she was far too weak to defend herself, and could only manage to crawl with the aid of a stick. We took her back with us to camp and eventually left her, at her own wish, with the native moolahs or priests at the top of the Rugga Pass. Leaving Gedaïs on the 12th March we turned our faces homewards, spending 10 days among the foot-hills and valleys at the bottom of Rugga, where we made many interesting additions to our scientific collections. While here we were startled one morning by a cheery well-known greeting, and in walked Fremantle, who had got his reprieve after all. He had, however, very nearly missed it at Berbera, and would have done so had not a slight attack of sun-stroke, brought on by his forced march to the coast, prevented his sailing the evening of his arrival in a wretched little native boat which had been engaged for him by a runner sent on ahead. That night the steamer arrived from Aden and with it the long hoped-for letter.

Our road to the coast took us through a curious bit of country which is rapidly being washed away by the floods that rush down the face of the Goolis during the rains. So rapidly indeed is the denudation taking place that well-defined paths may be seen ending abruptly on the edge of cliffs from 50 to 100 feet deep, every runnel of water eating out a *canyon* for itself, as the ground is very soft and friable. During the dry season the water in these canyons is highly alkaline and quite undrinkable.

On March 28th Gillett overtook us, and we were very sorry to learn that the expedition into the Howd had been unsuccessful so far as lions were concerned. Gillett had left Aylmer in the Sheikh Pass and had struck eastward in the hope of cutting us off, but finding only our "cold tracks" had had some hard marching to come up with us. Aylmer joined us the next day at Dobar, so our party was once more complete. We spent a day here arranging our collections for the voyage home, and reached Berbera on April 1st, where we were most kindly received by Captain and Mrs. Merewether. On the 3rd we crossed to Aden in the little steamer 'Sheikh Berkhud,' and received on landing a most welcome invitation to Government House from General and Mrs. Cunningham.

In arranging the following field-notes, which give the results of our observations during the expedition, I am gratefully indebted to my friend Dr. Bowdler Sharpe for his kind assistance, and in compiling them I have followed the order of classification adopted by him in his paper on the Birds of Western Somaliland (P. Z. S. 1895, pp. 457–520).

1. Rhinocorax affinis (Rüpp.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 30.

No. 164. ♂. Wagga Mountain, Feb. 22, 1897. Iris black.

This Short-tailed Raven is extremely common in Somaliland, from the sea-coast at Berbera to the top of the Goolis. It is a persistent and most fearless camp-follower, and is ever on the look-out for scraps from the kitchen. It has a curious habit of walking about with its beak wide open, as if greatly affected by the heat.

2. Corone edithæ Lort Phillips, Bull. Brit. Orn. Club, iv. p. 36 (1895).

No. 22. ♀ ad. Berbera, Jan. 18, 1897. Iris brown.

We met with this Crow at Berbera, where it was to be seen in company with the Short-tailed Raven (*Rhinocorax affinis*). Though not so plentiful as the latter species, it was fairly common on the Goolis range during our visit.

3. Lamprocolius chalybeus (Ehr.); Lort Phillips, Ibis, 1896, p. 84.

No. 86.	♀ ad.	Sheikh,	Jan. 30,	1897.	Iris	yellow.
No. 138.	♀ ad.	Sogsoda,	Feb. 14,	,,	,,	,,
No. 139.	♂ ad.	,,	,,	,,	,,	,,
No. 225.	♀ juv.	Wagga,	Mar. 6,	,,	,,	,,
No. 239.		,,	,,	,,	,,	,,

No. 225 is in full moult on the wings.

This Glossy Starling seems to prefer the cooler heights of the Goolis to the Gooban or hot coast-land, where I do not remember to have seen it. In the former locality, however, it is met with in small flocks occasionally. In its habits, note, and choice of breeding-places it is quite distinct from *Spreo superbus*.

4. Amydrus blythi Hartl.; Elliot, Field Columb. Mus., Orn. i. no. 2, p. 31.

Amydrus morio (nec L.); Lort Phillips, Ibis, 1896, p. 83.

No. 46. ♂ juv. Dobar springs, Jan. 24, 1897. Iris hazel.
No. 71. ♀ ad. Goolis foot-hills, Jan. 28, ,, ,, ,,

What I take to be the immature male is much duller than the adults, and the little gloss it has is green above and below. In this respect it approaches *A. frater* of Socotra, but the latter bird has a longer bill and the gloss on the underparts is distinctly metallic.

Dr. Sharpe agrees with me that the specimen which he identified as *A. morio* in my first Goolis collection must be referred to *A. blythi*.

I was much interested to find a flock of these Grakles in the gardens at the Dobar springs, eight miles inland from Berbera, as I had previously noticed them only on the upper ledges of the Goolis, where they were evidently breeding in holes in the face of a cliff.

5. Heteropsar albicapillus (Blyth); Sharpe, P. Z. S. 1895, p. 461.

No. 40. ♂ ad. The Gooban, Jan. 21, 1897. Iris white.
No. 41. ♂ ad. ,, ,, ,, ,, ,,
No. 82. ♂. Sheikh, Jan. 30, ,, ,, ,,
No. 83. Juv. ,, ,, ,, ,, ,,
No. 84. Juv. ,, ,, ,, ,, ,,

The male from the Sheikh plateau, 3000 feet (No. 82), differs from the two other specimens of the same sex in having large spots of black at the end of the long upper tail-coverts. There is a great difference in the breadth of the white stripes on the under surface of the body in the male (No. 40), and the white spotting of the upper surface is rather more distinct than in the other adult males. This individual is probably a young bird in its first full plumage. The two young birds shot on January the 30th differ very much in colour from the adults, especially in their bright yellow bills; the crown is ashy instead of pure white; the upper and under surfaces of the body are ashy brown, with pale ashy-grey centres to the feathers of the throat and breast; the lores, cheeks, and ear-coverts are dusky blackish.

6. Spreo superbus (Rüpp.); Lort Phillips, Ibis, 1896, p. 83.

No. 137. ♀. Sogsoda, Feb. 14, 1897. Iris light yellow.
No. 244. ♂. Wagga, Mar. 6, ” ” ”
No. 226. ♂. ” ” ” ” ”
No. 252. Gedaïs, Mar. 13, ” ” ”
No. 254. ♂. ” ” ” ” ”
No. 257. ” ” ” ” ”

We met with this handsome Glossy Starling from the Gooban to the top of the Goolis range. It is an early breeder, the young being fully fledged by the middle of March.

7. Buphaga erythrorhyncha Stanl.; Lort Phillips, Ibis, 1896, p. 82.

Somali name "Hoorie."

No. 247. ♂. Gedaïs, March 13, 1897. Iris yellow; bill bright red; eyelids yellow, very permanent.

This Red-billed Camel-bird is to be met with all over the country wherever there are herds of camels or cattle. It is gregarious, and I have seen some flocks numbering quite 50 individuals. When on the wing it is very noisy, uttering a somewhat harsh note.

8. Buchanga assimilis (Bechst.); Lort Phillips, Ibis, 1896, p. 76.

No. 167. ♂. Wagga Mountain, Feb. 23, 1897. Iris red.

This black Drongo is to be met with from the Gooban to the top of Wagga Mountain, some 8000 feet above the sea. It is very fearless, and, owing to its colouring, it is one of the most conspicuous objects in the bird-life of the country.

9. Hyphantornis spekii Heugl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 469 (1890).

No. 112. ♂. Sogsoda Plain, Feb. 2, 1897.

This handsome Weaver-bird does not appear to have been previously recorded from Somaliland. The only specimen seen was obtained on the Sogsoda Plain, which is a continuation of the Sheikh plateau, 3000 feet above the sea-level.

10. Hyphantornis galbula (Rüpp.); Heuglin, Ibis, 1859, p. 342.

No. 284. ♂. Wagga Mountain, Feb. 22, 1897. Iris orange.
No. 303. ♂. ,, ,, ,, ,, ,, ,,

These bright little yellow Weaver-birds and their hanging pear-shaped nests are to be found at every watering-place, well, or stream throughout the country, from the Berbera gardens to the top of Wagga Mountain. The nests we examined in the third week of March all contained young.

11. Dinemellia dinemelli (Horsf.); Sharpe, P. Z. S. 1895, p. 469.

Textor dinemellii, Lort Phillips, Ibis, 1896, p. 82.

Though we occasionally met with this Red-rumped Weaver-bird on the Goolis Mountains, it seems to prefer the more open Howd or Gooban plain, where it builds its nest in colonies at the extremities of the boughs of the larger mimosa-trees.

12. Petronia pyrgita (Heugl.); Sharpe, P. Z. S. 1897, p. 469.

No. 50. ♀ ad. The Gooban, Jan. 25, 1897. Iris black.
No. 196. ♂ ad. Wagga M'tain, Feb. 28, ,, ,, ,,
No. 197. ♀ ad. ,, ,, ,, ,, ,, ,,
No. 267. ♀ ad. Gedaïs, Mar. 18, ,, ,, ,,

We met with this Yellow-throated Sparrow both on the Gooban Plain and as high as 7000 feet on Wagga Mountain. On several occasions I noticed it perched on the thorn-hedge of a native gorriar.

13. Passer castanopterus Blyth; Sharpe, Cat. B. Brit. Mus. xii. p. 328 (1888).

No. 8. ♂ ad. Berbera, Jan. 16, 1897.

This beautiful little Sparrow represents in Berbera our common bird at home. Its habits and note are almost identical with those of the latter. In January they were very busy nest-building, carrying long streamers of grass &c. to holes in the wall under the veranda-roof.

14. Passer diffusus Smith; Sharpe, Cat. B. Brit. Mus. xii. p. 336 (1888).

No. 83. Sheikh, Jan. 30, 1897.

We obtained only one specimen of this Sparrow during the whole expedition.

15. Poliospiza pallidior sp. nov.

Similis *P. tristriatæ*, sed subtùs pallidior, magis grisescens, et rostro majore, saturatiore brunneo, fere nigricante distinguenda. Long. tot. 5·5 poll., culm. 0·55, alæ 2·7, caudæ 2·15, tarsi 0·75.

No. 87.	♀.	Sheikh,	Jan. 31,	1897.	Iris	hazel.
No. 88.	Ad.	,,	,,	,,	,,	,,
No. 161.	Juv.	Wagga,	Feb. 21,	,,	,,	,,
No. 193.	♂ ad.	,,	Feb. 27,	,,	,,	,,
No. 216.	♀ juv.	,,	,,	,,	,,	,,

Compared with the series of specimens of *P. tristriata* in the British Museum, all my Somali birds are very much greyer on the breast and sides of the body, the specimens from Abyssinia and Shoa being much darker on the under surface, not showing the white abdomen of *P. pallidior*. The dark colour of the bill is also a conspicuous feature in the Somali bird.

These White-browed Finches are to be found in the more thickly wooded parts of the Goolis range and Wagga Mountain, where we met with them in small family parties in February.

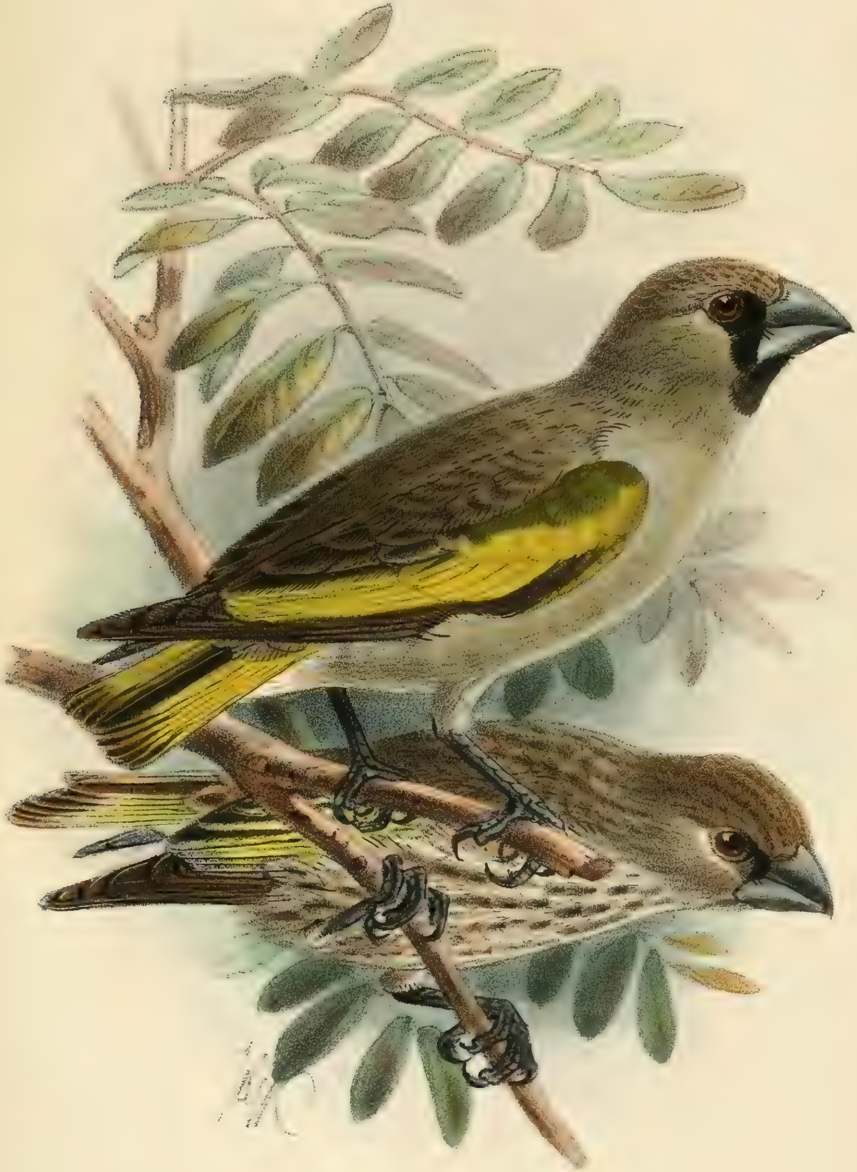
16. Rhynchostruthus louisæ Lort Phillips, Bull. Brit. Orn. Club. vi. p. xlvii; id. Ibis, 1897, p 448. (Plate VIII.)

No. 89. ♀ ad. Sheikh, Jan. 31, 1897.

No. 90. ,, ,, ,,

No. 177. ♂ juv. Wagga Mountain, Feb. 24, 1897. Iris brown.

This species is smaller than *R. socotranus* and has not such



J G Keulemans del et lith.

Mintern Bros imp.

RHYHCHOSTRUTHUS LOUISÆ, ad.et juv.

CENTRAL PARK,
NEW YORK.
NATURAL HISTORY

a big bill as the latter. The ear-coverts and cheeks are ashy grey, like the sides of the neck and breast, and the absence of the white cheek-spot is, perhaps, the most characteristic feature of the Somali bird. The young bird is densely striped with blackish brown below, and has dusky centres to the feathers of the back. The black on the throat is absent, the golden-yellow of the quills and tail is less developed, and the greater coverts are black, with broad saffron-coloured margins, instead of being golden yellow, as in the adults. That so brightly-coloured and conspicuous a bird as this new Finch should have escaped being recorded for so long is indeed remarkable. In 1895, at the foot of the Sheikh Pass, I procured a specimen out of a small flock, but as it was badly shot I gave up the attempt of skinning it and threw it away, thinking that I should see plenty more, but I did not see any during the whole time I was then in the country.

17. Serinus maculicollis Sharpe, P. Z. S. 1895, p. 470, pl. xxvii. fig. 1.

No. 92. ♀ juv. Sheikh, Jan. 31, 1897. Iris black.

The only place where we noticed this Finch was on the plateau at the top of the Sheikh Pass.

18. Fringillaria septemstriata (Rüpp.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 36 (1897).

No. 174. ♀. Wagga Mountain, Feb. 23, 1897. Iris black.
No. 184. ♂. ,, ,, Feb. 25, ,, ,, ,,
No. 203. ♂. ,, ,, ,, ,, ,, ,,

These little Buntings used to frequent the Hankadeely wells at mid-day in flocks of about a dozen. I did not notice them anywhere else during the expedition.

19. Fringillaria tahapisi (Smith); Sharpe, Cat. B. Brit. Mus. xii. p. 558 (1888).

No. 189. ♂ ad. Wagga Mountain, Feb. 26, 1897. Iris brown.

This specimen was in a flock of *F. septemstriata*, of which I shot several. The occurrence of this species so far north would be the more remarkable had it not been found by Prof. Balfour on the island of Socotra.

20. Alæmon alaudipes (Desf.); Sharpe, Cat. B. Brit. Mus. xiii. p. 518 (1890).

Certhialauda desertorum (nec Stanley); Heuglin, Ibis, 1859, p. 343.

No. 2.	♂.	Berbera	Plain,	Jan. 15,	1897.	Iris dark hazel;	legs white.
No. 3.	♂.	„	„	„	„	„	„
No. 4.	♀.	„	„	„	„	„	„
No. 13.	♂.	„	„	Jan. 18,	„	„	„
No. 14.	♂.	„	„	„	„	„	„

These strange Desert-birds were very plentiful on the Berbera Plain in January, and, as they were invariably met with in pairs, they may have been breeding. Their colouring so exactly matches that of the sand and stones among which they live, that they might easily escape observation altogether, were it not for a long-drawn melodious note frequently uttered. When followed they run with the greatest swiftness, instead of taking to flight.

21. Pseudalæmon fremantlii. (Plate IX. fig. 2.)

Calendula fremantlii Lort Phillips, Bull. B. O. C. vi. p. xlvi; id. Ibis, 1897, p. 448.

No. 147.	Gedaïs,	Feb. 16,	1897.	Iris	light hazel.
No. 148.	„	„	„	„	„
No. 153.	„	Feb. 18,	„	„	„
No. 154.	„	„	„	„	„
No. 155.	„	„	„	„	„

Captain Shelley has pointed out to me that this Lark is more nearly allied to the Desert-Larks of the *Alæmon* group than to *Calendula*, in which genus I had placed it. The bill is long and exceeds the middle toe and claw, but the first primary is very small, and thus *C. fremantlii* becomes allied to *Chersophilus* and *Rhamphocorys*. It is with the latter genus that its stout bill causes it to be compared, and it has also the same kind of pattern on the face. *Rhamphocorys* has a uniform back and short inner secondaries, whereas in *Pseudalæmon*—as I propose, at Dr. Bowdler Sharpe's suggestion, to call this bird—the back is streaked with blackish, as in *Galerita*. The genus *Pseudalæmon* may be separated from *Rhamphocorys* as follows:—

Simile generi *Rhamphocoryi*, sed rostro longiore, tomio maxillæ integro, secundariis intimis elongatis primarios fere æquantibus distinguendum.

I have called this new Lark after Mr. Guy Fremantle, who was a most enthusiastic collector.

22. Mirafra gilletti Sharpe, P. Z. S. 1895, p. 472.

No. 271. The Gooban, March 21, 1897. Iris hazel.

This Lark must be far from common, as we obtained only one specimen during the expedition.

23. Galerita cristata (Linn.); Sharpe, P. Z. S. 1895, p. 472.

No. 15. ♂. Berbera, Jan. 13, 1897. Iris brown.
No. 152. ♂. Gedaïs, Feb. 18, ,, ,, ,,
No. 225. ♂. Sogsoda, Mar. 15, ,, ,, ,,

We found the Crested Lark both on the plateau and on the Maritime Plain. At Berbera itself it frequents the cattle-market, where it may always be seen on the rubbish-heaps.

24. Ammomanes arkeleyi Elliot, Field Columb. Mus., Orn. i. no. 2, p. 39 (1897).

No. 39. ♂. Berbera Plain, Jan. 21, 1897. Iris light hazel.

This Lark is far from common. We obtained only one specimen.

25. Motacilla melanope Pallas.

Motacilla boarula Linn.; Salvad. Mem. R. Accad. Sci. Tor. (2) xliv. p. 557.

No. 186. ♀. Wagga Mountain, Feb. 25, 1897. Iris black.

This Wagtail was obtained at the Hankadeely wells on the mountain, about 7000 feet above the sea.

26. Anthus campestris (Linn.); Sharpe, Cat. B. Brit. Mus. x. p. 571 (1885).

No. 80. ♂. Sheikh, Jan. 30, 1897. Iris hazel.

This Pipit was obtained on the plateau in the open ground. It does not appear to have been previously recorded from Somaliland.

27. Anthus sordidus (Rüpp.); Lort Phillips, Ibis, 1896, p. 81.

No. 98.	♂.	Sheikh Pass,	Feb. 2,	1897.	Iris	brown.
No. 158.	♂.	Wagga,	Feb. 20,	,,	,,	,,
No. 159.		,,	,,	,,	,,	,,
No. 168.		,,	Feb. 23,	,,	,,	,,
No. 178.		,,	Feb. 24,	,,	,,	,,
No. 228.		,,	Mar. 3,	,,	,,	,,
No. 268.		,,	Mar. 18,	,,	,,	,,
No. 292.		Goolis foot-hills,	Mar. 23,	,,	,,	,,

This Pipit seems to prefer the more wooded districts to the open ground. We found it breeding early in March in 1895; the nest was placed in a bank and contained 4 eggs.

28. Anthus cervinus (Pall.); Sharpe, Cat. B. Brit. Mus. x. p. 586 (1885).

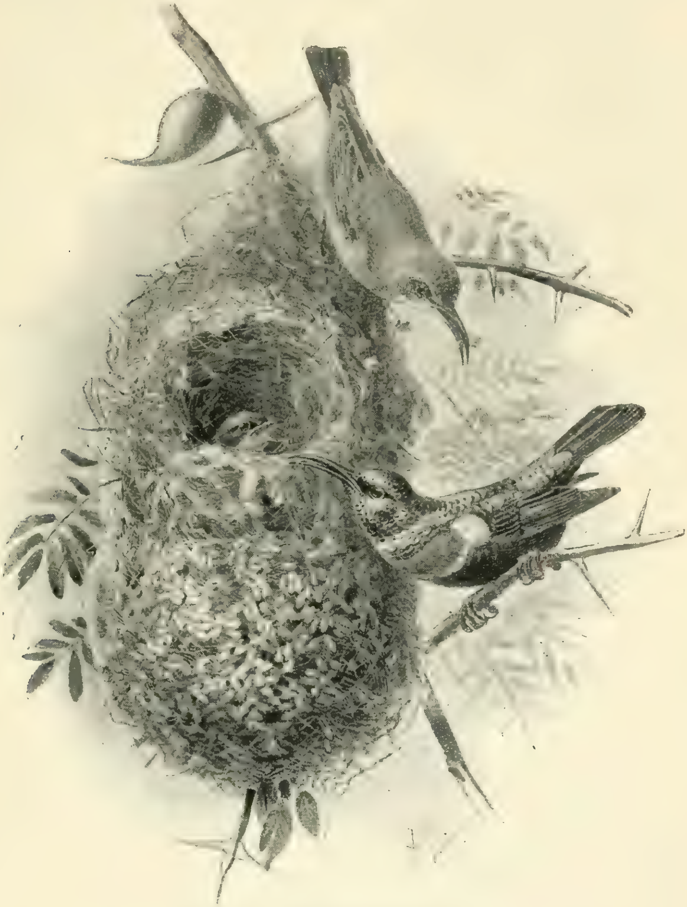
No. 115. Sogsoda, Feb. 6, 1897. Iris hazel.

The Red-throated Pipit is here noted for the first time from Somaliland, where it doubtless occurs on migration, as it has already been recorded from Shoa by Count Salvadori, and there is a specimen in the British Museum obtained by Dr. S. L. Hinde at Machakos in British East Africa.

29. Cinnyris habessinicus (H. & E.); Lort Phillips, Ibis, 1896, p. 81.

No. 59.	♂.	Sheikh	Pass,	Jan. 27,	1897.	Iris bright	hazel.
No. 60.	♂.	,,	,,	,,	,,	,,	,,
No. 97.	♂.	Sheikh,		Feb. 2,	,,	,,	,,
No. 209.	♂.	Wagga,	7000 ft.,	Mar. 2,		,,	,,
No. 280.	♂.	,,	,,	,,		,,	,,

This is the common Sun-bird of Northern Somaliland, and is to be met with from the Maritime Plain to the top of the Wagga Mountain, the highest peak of the Goolis range, where I found it breeding early in March. Its nest (see figure, p. 403) is hung from the extreme end of a branch, and is composed entirely of spiders' webs, decorated all over with minute empty cocoons. A little "penthouse" projects over the entrance, which must be a great protection from the rain in its exposed position.



Nest of *Cinnyris habessinicus.*

30. Cinnyris albiventris (Strickl.) ; Lort Phillips, Ibis, 1896, p. 82.

No. 221. ♂. Wagga, Mar. 6, 1897. Iris dark brown.
No. 308. ♂. The Gooban, Mar. 25, 1897. ,, ,,

Fairly common from the Berbera Plain to the top of the Goolis Mountains.

31. Anthothreptes orientalis (Hartl.); Sharpe, P. Z. S. 1895, p. 475.

No. 302. ♂. Rugga Pass, Mar. 24, 1897. Iris black.

Only one specimen seen. So far as I could judge, the habits of this Sun-bird differ little from those of *Cinnyris habessinicus*.

32. Hedydipna metallica (Licht.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 41 (1897).

No. 277. ♂. Rugga Pass, Mar. 21, 1897. Iris black.
No. 278. ♂. „ „ „ „ „
No. 279. ♂. „ „ „ „ „
No. 297. ♂. „ Mar. 23, „ „ „

This little Sun-bird was very plentiful on the foot-hills of the Goolis and out on the Gooban towards the end of March. I think it must have been migrating northwards, as I had never previously noticed it in Somaliland.

33. Parus thruppi Shelley, Ibis, 1885, p. 406, pl. xi. fig. 2; Sharpe, P. Z. S. 1895, p. 476.

No. 134. Sogsoda Plain, Feb. 14, 1897. Iris black.

Met with on several occasions in small families. Its note and habits are thoroughly characteristic of the Tit tribe. On March 23rd I found a pair nesting in a small hole in a tree about 20 feet from the ground.

34. Lanius antinorii Salvad.; Lort Phillips, Ibis, 1896, p. 76.

No. 16. ♂. Berbera Plain, Jan. 18, 1897. Iris dark hazel.
No. 54. ♂. Sheikh Pass, Jan. 26, „ „ „
No. 61. ♂. Sheikh, Jan. 28, „ „ „
No. 151. ♂. Wagga, 7000 ft., Feb. 16, „ „

This Shrike is to be found from Berbera itself to the top of Wagga Mountain. It is fairly plentiful and, from its bold colouring and its habit of choosing the topmost bough of a bush or tree as a resting-place, it is always a most conspicuous object in the bird-life of the country.

35. Lanius phœnicuroides Sev.; Lort Phillips, Ibis, 1896, p. 77.

No. 27. ♀. Berbera Gardens, Jan. 19, 1897. Iris brown.

No. 42. ♀. Sheikh, Jan. 28, 1897. Iris brown.
No. 68. ♂. ,, ,, ,, ,, ,,
No. 181. ♂. Wagga, Feb. 24, ,, ,, ,,
No. 261. ♂. Goolis foot-hills, Mar. 18, ,, ,, ,,
No. 265. ♂. ,, ,, ,, ,, ,, ,,

Met with singly, and generally seen perched on the topmost branch of a bush, like *L. antinorii.*

36. Laniarius cruentus (H. & E.); Lort Phillips, Ibis, 1896, p. 77.

No. 47. ♂. Berbera Plain, Jan. 24, 1897. Iris brown.
No. 94. ♂. Sheikh, Feb. 1, ,, ,, ,,
No. 95. ♀. ,, ,, ,, ,, ,,
No. 218. ♀. Wagga, Mar. 5, ,, ,, ,,

We found this beautiful and most conspicuous Shrike plentiful from the Berbera Plain up to about 8000 ft. on Wagga Mountain. Like several other Bush-Shrikes, it is always met with in pairs, the females with their black chests being the handsomer of the two.

37. Dryoscopus æthiopicus (Gm.); Sharpe, P. Z. S. 1895, p. 478.

Nos. 205, 206. ♂ ♀. Wagga, Mar. 2, 1897. Iris light hazel.

This Bush-Shrike was fairly plentiful and was invariably met with in pairs, the two birds spending most of their time in playing at hide and seek and going through ridiculous antics, similar to those of *Laniarius cruentus.* Its note is very melodious.

38. Telephonus jamesi Shelley, Ibis, 1885, p. 403, pl. x. fig. 2; Sharpe, P. Z. S. 1895, p. 479.

No. 291. ♂. Goolis foot-hills, Mar. 23, 1897. Iris hazel.

This Shrike is far from plentiful. I only met with it on two occasions during the expedition—once on Wagga Mountain, about 7000 ft. above the sea, and once at the base of the Goolis. In 1895 I did not obtain a single specimen, and only one was procured by Dr. Donaldson Smith.

39. Dryoscopus funebris Hartl.; Lort Phillips, Ibis, 1896, p. 77.

No. 72. ♂. Sheikh Pass, Jan. 28, 1897. Iris dark brown.
No. 219. Wagga, Mar. 5, ,, ,, ,,
No. 273. ♀. Goolis foot-hills, Mar. 21, ,, ,,

This Bush-Shrike is very plentiful on the Goolis range wherever there is dense covert, in which it loves to conceal itself on the approach of man. It has a charmingly melodious note.

40. Eurocephalus rueppelli Bp.; Lort Phillips, Ibis, 1896, p. 78.

No. 208. ♀. Gedaïs, Mar. 2, 1897. Iris brown.

On March 2nd Bland brought in a nest of this species with the bird to which it belonged. The nest was similar to the one I found in 1895, being made entirely of spiders' webs, so closely matted together as to give it, at a little distance, the appearance of being made of clay. There were four eggs.

41. Nilaus minor Sharpe, P. Z. S. 1895, p. 479.

No. 45. ♂. Gooban, Jan. 24, 1897. Iris hazel.
No. 132. ♂. Sogsoda, Feb. 13, ,, ,, ,,
No. 133. Juv. ,, ,, ,, ,, ,,
No. 142. ♂. ,, Feb. 14, ,, ,, ,,

This tiny Bush-Shrike was occasionally met with both on the Gooban and on the Goolis, but it is nowhere very plentiful.

42. Bradyornis pumilus Sharpe; Lort Phillips, Ibis, 1896, p. 76.

No. 65. ♂ juv. Bihen, Jan. 27, 1897.

This Flycatcher is very plentiful on Gooban Plain from Berbera to the foot-hills of the Goolis, but I did not notice it on the upland plateau.

43. Aedon familiaris (Ménétr.).

Sylvia familiaris Seebohm, Cat. B. Brit. Mus. v. p. 36 (1881).

No. 275. Gedaïs, Mar. 3, 1897. Iris brown.

This Rufous Warbler was seen on only two occasions. It seemed to prefer open ground where there were a few scattered bushes—flying from one to the other or running underneath them and flirting its fan-like tail after the manner of *Erythropygia leucoptera,* to which, in my opinion, it is closely allied.

44. Aedon galactodes (Temm.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 45 (1897).

No. 62. ♂. The Gooban, Jan. 24, 1897. Iris black.

It seems somewhat curious that both species of *Aedon* should winter in Somaliland, but my specimens leave no doubt on the subject.

45. Sylvia cinerea (Bechstein).

No. 96. ♀. Sheikh, Feb. 1, 1897. Iris black.

Our Common Whitethroat does not appear to have been previously recorded from Somaliland: it was doubtless on its migration northward.

46. Sylvia blanfordi Seebohm, Cat. B. Brit. Mus. v. p. 29, pl. ii. (1881).

No. 35. ♂. Berbera Plain, Jan. 20, 1897. Iris black.

The wing in my specimen measures 2·5 inches, and the tail 2·35. This is in contradiction to the characters given by Seebohm (*l. c.*), who gives the length of the tail as 2·56 and the wing 2·55; so that the tail is supposed to be longer than the wing (see his 'Key to the Species,' *t. c.* p. 6). A difference so small in the length of the wing and tail is a somewhat slender character on which to generalize, and according to my measurements of the type specimen (confirmed by Dr. Bowdler Sharpe) the wing is really 2·56 inches, but the tail is 2·2 inches and no more. It is evident that Mr. Seebohm included the *root* of the tail as well as the tail itself, but the actual feathers measured from the base to the tip are only 2·2 inches. The type specimen is in very worn and abraded plumage and the pale ends are completely worn off. The dark legs of the species, however, seem to distinguish *S. blanfordi* from *S. melanocephala.*

This species appears to be only known from four specimens up to the present date. One of these is the type in the British Museum, from Rairo in Abyssinia, a second has been procured by Mr. Cholmley near Suakin (Ibis, 1897, p. 203). A third example has been recorded from Shoa by Count Salvadori, Ann. Mus. Civic Genov. (2) vi. p. 259 (1888); and now I have obtained a fourth example in Somaliland.

47. Sylvia nana H. & E.; Seebohm, Cat. B. Brit. Mus. v. p. 26 (1881).

No. 5. Berbera Plain, Jan. 15, 1897. Iris light yellow.
No. 10. ♂. „ „ Jan. 17 „ „ „

So far as I can ascertain, this Desert-Warbler has never before been recorded from Somaliland; but during our stay at Berbera it was far from uncommon on the Maritime Plain, where it frequented the stunted bushes.

48. Phylloscopus rufus (Bechstein); Seebohm, Cat. B. Brit. Mus. v. p. 60 (1881).

No. 99. ♂. Sheikh, Feb. 2, 1897. Iris black.
No. 160. ♀. Wagga, Feb. 20 „ „ „
No. 169. ♀. „ Feb. 23 „ „ „

The Chiffchaff, though fairly common on Wagga Mountain and on the upper ledges of the Goolis, does not seem to have been recorded from Somaliland before. It was, doubtless, on migration.

49. Hypolais languida (H. & E.); Lort Phillips, Ibis, 1896, p. 78.

No. 49. Berbera Plain, Jan. 25, 1897. Iris black.

As in 1895, I procured only one specimen of this species, and, curiously enough, it was shot in the same locality, viz. close to the wells at Dobar.

50. Hypolais pallida (H. & E.); Seebohm, Cat. B. Brit. Mus. v. p. 82 (1881).

No. 306. ♂. The Gooban, March 26, 1897. Iris hazel.

We procured only one specimen of this Warbler, which is probably much rarer than *H. languida*.

51. Eremomela flavicrissalis Sharpe, P. Z. S. 1895, p. 481.

No. 114. ♂. Sheikh, Feb. 6, 1897. Iris black.
No. 143. ♀. Sogsoda, Feb. 14 ,, Iris light hazel.

Only seen on two or three occasions.

52. Sylviella micrura (Rüpp.); Sharpe, P. Z. S. 1895, p. 482.

No. 43. ♂. The Gooban, Jan. 23, 1897. Iris hazel.
No. 44. ♀. ,, ,, ,, ,, ,,

We met with one small party only of these sociable Warblers at the base of the Goolis range. The extreme shortness of their tails gives them a very odd appearance.

53. Dryodromas smithi Sharpe, P. Z. S. 1895, p. 482; Elliot, Field Columb. Mus., Orn. i. no. 2, p. 44 (1897).

No. 194. ♂. Wagga, Feb. 27, 1897. Iris light brown.
No. 222. ♂. Gedaïs, Mar. 7 ,, ,, ,,
No. 288. ♂. The Gooban, Mar. 22 ,, ,, ,,
No. 289. ♀. ,, ,, ,, ,, ,,

This Grass-Warbler is fairly plentiful, both on the Gooban and on the Howd plateau, where it is to be met with in parties of from twelve to fifteen. Its note is very Tit-like, and its fussy habit of flitting from bush to bush reminds one forcibly of a family of our Long-tailed Tit.

54. Burnesia somalica Elliot, Field Columb. Mus., Orn. i. no. 2, p. 45 (1897).

No. 25. ♂. Berbera Plain, Jan. 19, 1897. Iris light hazel.
No. 26. ♂. ,, ,, ,, ,, ,, ,,

Plentiful in January among the stunted bushes close to the town, where their colour exactly matches the sand, stones, and desert vegetation.

55. Camaroptera brevicaudata Cretschm.; Sharpe, Cat. B. Brit. Mus. vii. p. 168 (1883).

No. 262. ♂. Goolis foot-hills, March 18, 1897. Iris light hazel.

The above was the only specimen observed during our expedition.

56. Calamonastes simplex (Cab.); Lort Phillips, Ibis, 1896, p. 80.

No. 66. ♂. Goolis foot-hills, Jan. 27, 1897. Iris hazel.
No. 272. ♀. „ „ Mar. 21, „ „ „
No. 305. ♂. „ „ Mar. 25, „ „ „

This noisy little Warbler is plentiful along the base of the Goolis, where the thick vegetation seems to suit it. I did not notice it on the plateau.

57. Erythropygia leucoptera (Rüpp.); Lort Phillips, Ibis, 1896, p. 80.

No. 269. Goolis foot-hills, Mar. 19, 1897. Iris black.
No. 274 „ „ Mar. 21, „ „ „

This little Fantail seems to prefer the hot Gooban to the cooler plateau, where I do not remember to have once noticed it.

58. Merula ludoviciæ Lort Phillips, Ibis, 1896, p. 78, pl. ii.

No. 129. ♂. Wagga, Feb. 9, 1897. Iris brown.
No 191. ♂. „ Feb. 27, „ „ „
No. 198. ♀. „ Feb. 28, „ „ „

This Blackbird is confined to the localities where the Giant Cypress (*Juniperus procera*) grows, the berries of which provide its chief food. On the north face of Wagga Mountain, which is covered with a forest of these grand trees, the song of *M. ludoviciæ* may be heard in all directions in the early morning. To the westward, at Darra Ass, some 40 miles distant, is another such forest, where I obtained the first recorded specimens.

59. Monticola saxatilis (Linn.); Sharpe, P. Z. S. 1895, p. 485.

No. 85. ♂. Sheikh ruins, Jan. 30, 1897. Iris brown.
No. 102. ♂. „ „ Feb. 2, „ „ „
No. 115. ♂. Wagga, Mar. 5, „ „ „
No. 117. ♀. „ „ „ „ „
No. 229. ♂. „ Mar. 7, „ „ „
No. 233. ♂. „ Mar. 9, „ „ „
No. 296. ♀. Gedaïs, Mar. 23, „ „ „

We found this Rock-Thrush very local, but at Sheikh there were always several to be seen among the ruins. Also on Wagga it was fairly plentiful, while to the westward of Sheikh Pass I do not remember to have seen it.

60. Monticola cyanus (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 316 (1881).

No. 111. ♀. Sheikh, Feb. 5, 1897. Iris black.

This is the first specimen of the Blue Rock-Thrush recorded from Somaliland.

61. Monticola rufocinereus (Rüpp.); Lort Phillips, Ibis, 1896, p. 79.

No. 90. Juv. Sheikh, Jan. 31, 1897. Iris brown.
No. 103. Juv. „ Feb. 2, „ „ „
No. 175. ♂. Wagga, Feb. 23, „ „ „
No. 183. ♂. „ Feb. 24, „ „ „
No. 195. ♂. „ Feb. 27, „ „ „

The habits and flight of this little Rock-Thrush closely resemble those of the Redstart, to which, in my opinion, it is much more nearly allied than it is to the Rock-Thrushes.

62. Irania gutturalis (Guérin); Lort Phillips, Bull. Brit. Orn. Club, vi. p. xlvi.

Erythacus gutturalis Seebohm, Cat. B. Brit. Mus. v. p. 304 (1881).

No. 283. ♂. Goolis foot-hills, Mar. 22, 1897. Iris brown.
No. 301. ♂. „ „ Mar. 24, „ „ „

That this species has never been previously recorded from Somaliland is hardly surprising, considering the extreme shyness of the bird and its efforts to escape observation. The moment that it fancies itself watched it will flit out of the further side of the bush in which it happen to be, and make for the next nearest covert, repeating the same tactics should it be followed. Its note is a deliciously soft *chur-r-r-r-r*, the origin of which puzzled me for some time. This bird must be far from uncommon on the Goolis foot-hills in March, but only two specimens were procured, and these with difficulty.

63. Ruticilla semirufa (H. & E.); Seebohm, Cat. B. Brit. Mus. v. p. 344.

R. phœnicurus (nec L.), Lort Phillips, Ibis, 1896, p. 80.

No. 91. Sheikh, Jan. 31, 1897. Iris black.
No. 176. ♂. Wagga, Feb. 23, ,, ,, ,,

The bird recorded by me in my previous paper as the Common Redstart turns out to be *R. semirufa*, Dr. Sharpe having made a mistake in the determination of the specimen, which was in rather poor condition. Besides the differences of the under wing-coverts and the colour of the back mentioned by Seebohm (Cat. B. v. p. 335), there seems to be much less white on the forehead in *R. semirufa*, the black on the throat extends over the chest, and the chestnut on the rump and on the under surface of the body is deeper in tint. These differences are very appreciable when a series of the two species is compared. This appears to be the Common Redstart of the Goolis range, where it breeds in February and March, the nesting-places and the colour of the eggs being the same as those of *R. phœnicurus*.

64. Saxicola isabellina (Rüpp.); Lort Phillips, Ibis, 1896, p. 80.

No. 9. ♀. Berbera Plain, Jan. 17, 1897. Iris dark brown.
No. 17. ♀. ,, ,, Jan. 18, ,, ,, ,,
No. 28. ♂. ,, ,, Jan. 19, ,, ,, ,,
No. 29. ♂. ,, ,, ,, ,, ,, ,,
No. 38. ♂. ,, ,, Jan. 21, ,, ,, ,,
No. 156. ♀. Goolis foot-hills, Mar. 15, 1897 ,, ,,

This Chat was very plentiful on the burning Gooban, or Maritime Plain, which locality it seemed to prefer to the cooler upland plateau.

65. Saxicola phillipsi Shelley; Lort Phillips, Ibis, 1896, p. 79.

No. 78. ♀. Sheikh, Jan. 30, 1897. Iris black.
No. 104. ,, Feb. 2, ,, ,, ,,
No. 192. ♀. Wagga, Feb. 27, ,, ,, ,,
No. 202. ♂. ,, Mar. 1, ,, ,, ,,
No. 293. ♂. Goolis foot-hills, Mar. 23. ,, ,, ,,

This Chat, though found on the Gooban, is much more numerous on the plateau, and we found it also on the open spaces on Wagga Mountain, 8000 ft. above the sea.

66. Saxicola morio Seebohm, Cat. B. Brit. Mus. v. p. 372 (1881).

No. 63.	♂.	The Gooban,	Jan. 24,	1897.	Iris	black.
No. 64.	♂.	,,	Jan. 25,	,,	,,	,,
No. 170.	♂.	Wagga,	Feb. 23,	,,	,,	,,
No. 171.	♂.	,,	,,	,,	,,	,,
No. 230.	♀.	,,	Mar. 8,	,,	,,	,,
No. 232.	♀.	,,	Mar. 9,	,,	,,	,,
No. 257.	♀.	Goolis foot-hills,	Mar. 15,	,,	,,	,,
No. 270.	♂.	,, ,,	Mar. 21,	,,	,,	,,

This Chat, which has not previously been recorded from Somaliland, was, curiously enough, very numerous during our last visit.

67. Saxicola deserti Temm.; Lort Phillips, Ibis, 1896, p. 79.

No. 11.	♂.	Berbera Plain,	Jan. 17,	1897.	Iris	black.
No. 12.	♀.	,, ,,	,,	,,	,,	,,
No. 18.	♂.	,, ,,	Jan. 18,	,,	,,	,,
No. 24.	♂.	,, ,,	Jan. 19,	,,	,,	,,
No. 67.	♂.	Goolis foot-hills,	Jan. 27,	,,	,,	,,

The Desert-Chat is very plentiful on the Berbera Plain in January, where it was to be seen in all directions perched, in true Chat-fashion, on the tops of the stunted bushes.

68. Myrmecocichla melanura (Temm.); Lort Phillips, Ibis, 1896, p. 79.

No. 36. ♀. Berbera Plain, Jan. 20, 1897. Iris black.

This little Chat seems to delight in the small bare hills that dot the Maritime Plain, but I never noticed it on the green slopes of the Goolis.

69. Pycnonotus arsinoë (H. & E.); Sharpe, Cat. B. Brit. Mus. vi. p. 148 (1881).

No. 51.	♂.	Goolis foot-hills,	Jan. 25, 1897.	Iris	black.
No. 52.	♂.	,, ,,	,,	,,	,,
No. 53.	♀.	,, ,,	,,	,,	,,

No. 190.	♂.	Wagga,	Feb. 26, 1897.	Iris black.
No. 199.	♂.	,,	Feb. 28, ,,	,, ,,
No. 266.	♂.	Rugga Pass,	Mar. 18, ,,	,, ,,

This Bulbul is one of the commonest objects of bird-life from Berbera to the summit of Wagga Mountain. All through the day its beautiful liquid note is to be heard in all directions.

70. PACHYPRORA ORIENTALIS (Heugl.); Lort Phillips, Ibis, 1896, p. 76.

No. 70.	♀.	Sheikh,	Jan. 28, 1897.	Iris yellow.
No. 93.	♂.	,,	Jan. 31, ,,	,, ,,
No. 149.	♀.	Sogsoda,	Feb. 16, ,,	,, ,,
No. 150.	♂.	,,	,, ,,	,, ,,
No. 290.	♀.	Goolis foot-hills,	Mar. 23, ,,	,, ,,
No. 298.	♂.	,, ,,	,, ,,	,, ,,

This tiny Flycatcher is fairly plentiful in the Goolis.

71. TERPSIPHONE CRISTATA (Gm.); Lort Phillips, Ibis, 1896, p. 76.

No. 131.	♂ juv.	Wagga,	Feb. 13, 1897.	Iris dark purple.
No. 166.	♂.	,,	Feb. 23, ,,	,, ,,
No. 187.	♂.	,,	Feb. 25, ,,	,, ,,

We saw this beautiful Flycatcher only on one or two occasions. The specimens obtained were shot at the Hankadeely Wells.

72. COTILE OBSOLETA Cab.

Ptyonoprogne obsoleta (Cab.); Shelley, B. Africa, p. 101.

No. 211.	♀.	Wagga,	Mar. 3, 1897.	Iris black.
No. 295.		Goolis foot-hills,	Mar. 23, ,,	,, ,,

This Rock-Martin is very plentiful along the Goolis range. In March we found numbers breeding on the steep face of a cliff, against which their nests seemed to be glued.

73. DENDROMUS HEMPRICHI (H. & E.); Hargitt, Cat. B. Brit. Mus. xviii. p. 299 (1890).

Dendropicus hemprichi Shelley, Ibis, 1895, p. 393.

No. 136. Juv. Sogsoda, Feb. 14, 1897. Iris hazel.

Not rare, but, like all Woodpeckers, shy and retiring in its habits.

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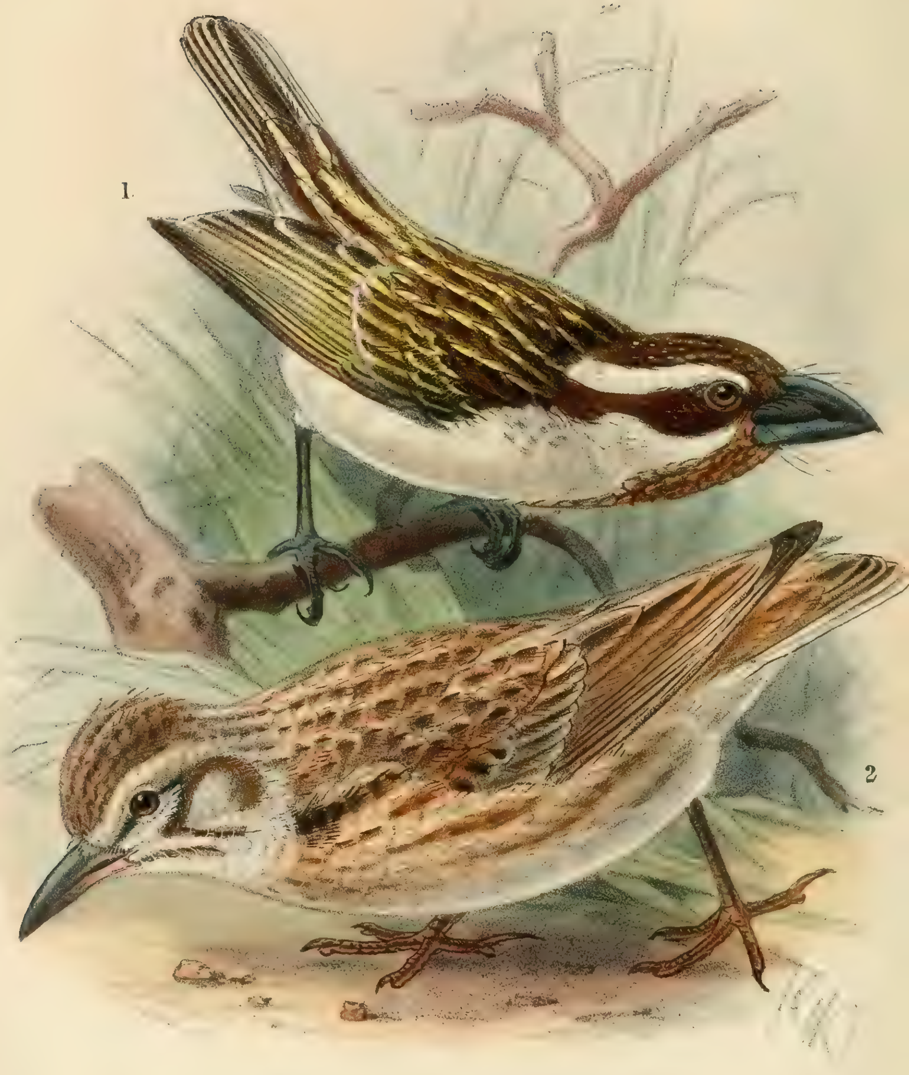


J G Keulemans del et lith.
Mintern Bros imp

1. TRICHOLÆMA BLANDI. 2. PSEUDALÆMON FREMANTLII.

74. Campothera nubica (Gm.); Shelley, Ibis, 1885, p. 393.

No. 117. ♂. Sogsoda, Feb. 7, 1897. Iris hazel.
No. 135. ♂. „ Feb. 14, „ „ „
No. 145. ♀. „ Feb. 16, „ „ „
No. 146. Juv. „ „ „ „ „

Fairly common. Its cry is very loud, resembling that of the Green Woodpecker. We found a nest in February containing two fledged young.

75. Indicator minor Steph.; Sharpe, Cat. B. Brit. Mus. xix. p. 9 (1891).

No. 172. ♂. Wagga Mountain, Feb. 23, 1897. Iris brown.
No. 200. „ „ Mar. 1, „ „ „
No. 201. ♀. „ „ „ „ „ „

This little Honey-guide has not previously been recorded from Somaliland. The specimens obtained were shot at the Hankadeely Wells, about 7000 ft. up the mountain; their crops were full of a white mealy substance.

My specimens are very dark, and have a dark grey throat and chest; they agree with the Bogos-land specimen of Jesse in the British Museum.

76. Trachyphonus margaritatus (Cretzschm.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 49 (1897).

No. 100. ♂. Sheikh ruins, Feb. 2, 1897. Iris brown.
No. 101. ♂. „ „ „ „ „ „
No. 238. ♀. Gedaïs, Mar. 11, „ „ „
No. 239. ♀. „ „ „ „ „
No. 275. ♂. Goolis foot-hills, „ „ „ „

This Barbet is far from common in the Goolis, small parties of from 4 to 8 being occasionally met with. It seems to prefer the thick creeper-covered bushes which are to be found along the watercourses. Its flight much resembles that of a Woodpecker.

77. Tricholæma blandi Lort Phillips, Bull. B. O. Club, vi. p. xlvii. (Plate IX. fig. 1.)

No. 287. ♀. Goolis foot-hills, Mar. 22, 1897. Iris brown.

This species is very similar to *T. stigmatothorax*, but differs in having no red spot on the breast, while the distinct white tips to the feathers of the head and throat constitute another striking character. I have named it after Mr. Ivers Bland, who brought me the first specimen obtained. We saw it on several occasions in the stunted mimosas, which it seemed to prefer to other trees.

78. Coccystes cafer (Licht.); Shelley, Cat. B. Brit. Mus. xix. p. 221.

I obtained an adult female specimen of this species on the Dogga Mountain on March 3rd, 1897, being the first recorded example from Somaliland. But the bird ranges as far north as Bogos (*Jesse*) and the valley of the Anseba (*Blanford*).

79. Schizorhis leucogaster (Rüpp.); Lort Phillips, Ibis, 1896, p. 74.

No. 105. ♂ juv. Sheikh, Jan. 31, 1897.
No. 106. ♀ ad. ,, ,, ,,

The young bird differs only in being more ashy brown than the adults. It has a much smaller crest, and the tail-feathers have a second white band.

These birds were tolerably plentiful both on the Gooban Plain and on the upper Goolis, but we did not notice them on Wagga Mountain above 4000 feet.

80. Coracias lorti Shelley; Lort Phillips, Ibis, 1896, p. 74.

No. 75. ♂. Sheikh, Jan. 29, 1897.

Of this Roller, which was very numerous along the Goolis in 1895, we obtained only a single specimen, while *C. nævius* was equally scarce.

81. Coracias nævius Daud.; Lort Phillips, Ibis, 1896, p. 74.

No. 78. ♂. Goolis foot-hills, Jan. 28, 1897. Iris brown.
No. 234. ♂. Gedaïs, Mar. 10, ,, ,, ,,
No. 235. ♀. ,, ,, ,, ,, ,,

We did not find this Roller nearly so plentiful as on previous expeditions.

82. Lophoceros flavirostris (Rüpp.); Sharpe, P. Z. S. 1895, p. 499.

No. 57. Goolis foot-hills, Jan. 27, 1897. Iris yellow.

This Hornbill is generally seen in pairs, and is not rare. It seems to prefer the hot Gooban Plain to the cooler air of the plateau.

83. Lophoceros medianus Sharpe, P. Z. S. 1895, p. 498.

No. 248. Juv. Gedaïs, Mar. 13, 1897. Iris brown.
No. 299. ♂. Goolis foot-hills, Mar. 23, „ Iris yellow.

Both old and young birds brought home by me are entirely white on the sides of the face, and have only a little grey on the ear-coverts, so that Mr. Elliot is probably mistaken in uniting the species with *L. erythrorhynchus*.

84. Upupa somaliensis Salvin; Lort Phillips, Ibis, 1896, p. 73.

No. 140. ♂. Sogsoda, Feb. 14, 1897. Iris hazel.

I did not find this Hoopoe nearly so numerous as on previous expeditions.

85. Irrisor erythrorhynchus (Lath.); Lort Phillips, Ibis, 1896, p. 72.

No. 108. ♂. Sheikh, Feb. 3, 1897. Iris light hazel.

Common in flocks of from eight to ten along the water-courses, where the biggest trees are always to be found.

86. Rhinopomastes minor (Rüpp.); Sharpe, P. Z. S. 1895, p. 300.

No. 55. ♂ juv. Sheikh, Jan. 27, 1897. Iris brown.
No. 56. ♂ ad. „ „ „ „ „
No. 107. ♀ ad. „ Feb. 3, „ „ „
No. 220. ♂. Wagga, 7000 ft., Mar. 6, „ „ „
No. 250. ♀ juv. Gedaïs, Mar. 13, „ „ „
No. 304. Goolis foot-hills, Mar. 25, „ „ „

The young birds are smoky brown or sooty blackish underneath; the upper surface is far less glossy than in the adults, and the sides of the face are sooty black. The bill is of a dull yellow, with the terminal two-thirds blackish. The bird was fairly plentiful among the mimosa-trees.

87. Melittophagus cyanostictus (Cab.); Lort Phillips, Ibis, 1896, p. 73.

No. 144. ♀. Sogsoda, Feb. 14, 1897. Iris red.
No. 244. Gedaïs, Mar. 12, ,, ,, ,,
No 307. ♂. Goolis foot-hills, Mar. 25, ,, ,, ,,

Common everywhere. On March 25th we found a nest of this little Bee-eater in a sandy bank, containing young ones, the chirrups of which we could hear at the end of their dark passage. Unfortunately, one of our party (in ignorance of the fact) shot the male bird, and the grief of the widow was piteous to behold. She darted about before the entrance to her home in the greatest distress, loudly twittering forth her loss and her forlorn condition. This little ruse, if ruse it was, was crowned with complete success, for within an hour a new mate had come to the rescue, and we watched him with the now happy mother, feeding his ready-made family with as much assiduity as if they were his own children.

88. Caprimulgus inornatus Sharpe, P. Z. S. 1895, p. 503.

No. 212. Wagga Mountain, 5000 ft., Mar. 3, 1897. Iris black.

We saw several of these Goatsuckers at Hankadeely, our camping-place on Wagga Mountain; they were hawking for moths high in the air at sundown.

89. Scops leucotis (Temm.); Sharpe, Cat. B. Brit. Mus. ii. p. 97 (1875).

No. 236. ♀. Gedaïs, March 10, 1897. Iris yellow.

This Owl, of which we obtained only one specimen, may be plentiful, but, being strictly nocturnal in its habits, it is not often noticed.

90. Carine spilogastra (Heugl.); Sharpe, P. Z. S. 1895, p. 504.

No. 110. ♂. Sheikh ruins, Feb. 4, 1897. Iris yellow.

This little Owl, though seldom seen, must be very plentiful, as its beautiful soft call-notes are heard in every direction as soon as the daylight has gone. It breeds in the tall white-ant-hills and in hollow trees.

91. CIRCUS MACRURUS Sharpe, P. Z. S. 1895, p. 505.

No. 223. ♀. Gedaïs, Mar. 6, 1897. Iris hazel; legs yellow.

This Harrier is far from plentiful in Northern Somaliland at least during the first four months of the year. Its food appears to consist of locusts and lizards.

92. MELIERAX POLIOPTERUS (Cab.); Shelley, P. Z. S. 1882, p. 305.

No. 77. ♂. Sheikh, Jan. 30, 1897. } Iris hazel; legs and base of beak dark orange.
No. Gedaïs, Mar. 13, ,, }

Mr. Oscar Neumann (Orn. Monatsb. v. p. 192, 1897) has separated the Chanting Goshawk of Somaliland as *Melierax poliopterus somaliensis*, which is supposed to have the crown of the head ashy grey, not differing from the colour of the neck. In *M. poliopterus* from East Africa the crown is said to be blackish grey, contrasting with the neck. My two specimens do not bear out this difference, and they are absolutely identical with two East-African examples in the British Museum. This Goshawk is tolerably common, but is more often seen perched on some high tree or ant-hill than on the wing.

93. MELIERAX NIGER Sharpe, P. Z. S. 1895, p. 506.

No. 207. ♂. Wagga, Mar. 2, 1897. Iris hazel; legs orange.

This was the only specimen seen, and is the first recorded from the Goolis or Northern Somaliland.

94. AQUILA RAPAX (Temm.); Sharpe, P. Z. S. 1895, p. 507; Elliot, Field Columb. Mus., Orn. i. no. 2, p. 57 (1897).

No. 156. ♂. Sogsoda, Feb. 19, 1897. } Iris brown and yellow; feet yellow.
No. 277. ♂. Wagga, Mar. 6, ,, }

Very plentiful. This Eagle is a persistent camp-follower, and a very noisy one too. It has a particularly irritating cry, which is simply maddening when one has any writing to do.

95. Milvus ægyptius Gm.; Sharpe, P. Z. S. 1895, p. 509.

No. 76. ♂. Sheikh, Jan. 29, 1897. Iris hazel.

This Kite is very plentiful, from Berbera, where it may be seen in hundreds, to the summit of the Goolis range. Its boldness and audacity I have never seen equalled. A native standing close to me was holding a small piece of meat in his hand when one of these birds swooped down and seized it, inflicting at the same time a horrid wound with one of its claws. This was only one of many such incidents.

96. Poliohierax semitorquatus (Smith); Shelley, Ibis, 1885, p. 391.

No. 141. ♂. Sogsoda, Feb. 14, 1897. Iris brown; legs orange.

No. . ♀.

No. . ♀.

These miniature Falcons are fairly plentiful, but they are not often seen, as they are very sedentary in their habits, sitting for hours on the same dead bough watching till some unfortunate lizard ventures far enough from the protecting covert, when, with graceful "stoop," they seize their victim, and return with him to their "watch-tower."

97. Cerchneis tinnunculus (L.); Sharpe, P. Z. S. 1895, p. 510.

No. 130. ♂. Sogsoda, Feb. 11, 1897. { Iris brown; legs
No. 214. ♂. Wagga, Mar. 4, „ { yellow.

This seems to be the Common Kestrel of the Goolis, but it is not very plentiful.

98. Butorides brevipes (H. & E.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 278.

No. 32. ♂. Berbera, Jan. 19, 1897. Iris brown.

Shot in the harbour at Berbera. This specimen agrees with the dark-plumaged race which inhabits the shores of the Red Sea.

99. Lepterodias gularis (Bosc); Sharpe, Cat. B. Brit. Mus. xxvi. p. 114.

No. 19. ♂. Berbera, Jan. 18, 1897. Iris light yellow.
No. 33. ♀. „ Jan. 19, „ „ „

These Egrets are common in Berbera harbour, where they may be seen rushing about at low tide with outspread wings, chasing small fishes in the shallow pools left by the sea—a curious habit, contrasting strangely with the dignified demeanour of their near relation, our Common Heron.

100. Lophotis gindiana (Oust.); Lort Phillips, Ibis, 1896, p. 86.

No. 300. ♂. The Gooban, Mar. 23, 1897. Iris yellow.
 „ ♀. „ „ „ „ „

These Bustards are plentiful in the Gooban, where we found them breeding in March and April in 1895.

101. Œdicnemus scolopax (Gm.).

No. 116. ♀. Sogsoda, Feb. 7, 1897. Iris and legs yellow.

This specimen of the European Thick-knee was found in the same district as *Œ. affinis*.

102. Œdicnemus affinis Rüpp.; Sharpe, P. Z. S. 1895, p. 513.

No. 123. ♂. Sogsoda, Feb. 8, 1897. Iris and legs yellow.

This is evidently the resident Thick-knee of Somaliland. It is generally met with in pairs on the more open parts of the country, where we found it breeding in April, the eggs being laid on the bare ground.

103. Rhinoptilus hartingi, Sharpe, P. Z. S. 1895, p. 513.

No. 113. ♂. Sogsoda, Feb. 6, 1897. Iris hazel; legs white.

We obtained this specimen, the only one seen, on the Sogsoda Plain.

104. Rhinoptilus cinctus (Heugl.); Shelley, Ibis, 1885, p. 416.

No. 182. ♂. Gedaïs, Feb. 24, 1897. Iris brown.
No. 243. ♀. „ Mar. 12, „ „ „

Seen only on these two occasions.

105. Cursorius somaliensis Shelley; Lort Phillips, Ibis, 1896, p. 36.

No. 118.	♂.	Sogsoda Plain,	Feb. 7,	1897.	Iris black;	legs white.
No. 119.	♂.	„	„	„	„	„
No. 125.	♂.	„	Feb. 9,	„	„	„
No. 126.	♀.	„	„	„	„	„
No. 127.		„	Mar. 15,	„	„	„
No. 128.	♂.	„	„	„	„	„
No. 258.	♂.	„	„	„	„	„

We found several flocks of these Coursers on the Sogsoda Plain, which is about 3000 feet above the sea.

106. Stephanibyx coronata (Gm.); Sharpe, P.Z.S. 1895, p. 514.

No. 109. ♂. Sheikh, Feb. 4, 1897. Iris yellow, legs red.

The "Watchman-bird," as the natives call this Plover, is fairly plentiful on the Goolis, in small parties of from five to eight. In the daytime it is very tame and easily approached, but at night the slightest noise alarms it, and the flock will rise into the air and fly round and round the disturber, be he man or beast, uttering loud cries. These alarm-notes have often given timely warning to the inhabitants of a native village of an intended hostile attack, and so saved them from being looted.

107. Charadrius dominicus (Müll.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 196 (1896).

♀ juv. Berbera, Jan. 15, 1897.

This little Golden Plover was shot in the Berbera harbour, where there was a small flock of about a dozen.

108. Ægialitis cantiana (Lath.).

Nos. 30, 31. ♂ ♂. Berbera, Jan. 19, 1897. Iris brown.

The Kentish Plover frequented the Berbera harbour at low tide, where small flocks were to be seen feeding on the mud-flats.

109. Oxyechus tricollaris (V.); Sharpe, P. Z. S. 1895, p. 514.

No. 68. ♂. Bihen springs, Jan. 28, 1897. Iris brown, eyelids vermilion.
No. 69. ♂. „ „ „ „ „ „
No. 276. ♀. Goolis foot-hills, Mar. 21, „ „ „
No. 281. ♂. „ „ „ „ „ „

This little Plover is tolerably plentiful along the streams at the base of the Goolis up to about 1000 ft.; above that elevation I did not notice it. It is extremely tame, allowing one to come within a few yards of it, when it will only take a short flight and alight again immediately.

110. Helodromas ochropus (L.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 437 (1896).

No. 282. Goolis foot-hills, Mar. 22, 1897. Iris hazel.

Found throughout the Goolis wherever there is running water, though not so plentiful as *Tringoides hypoleucus*. When disturbed it springs into the air and dashes off uttering a wild note resembling that of the Common Redshank.

111. Tringoides hypoleucus (L.); Sharpe, P. Z. S. 1895, p. 515.

No. 6. ♀. Berbera gardens, Jan. 19, 1897. Iris dark brown.

We found these little Sandpipers wherever there was running water, both on the Goolis range and at Berbera itself, where they delighted in the irrigation-channels of the many gardens.

112. Calidris arenaria (L.); Heuglin, Ibis, 1859, p. 348.

No. 7. ♀. Berbera, Jan. 16, 1897. Iris brown.

The Sanderling is to be found on the mud-flats in the harbour at low tide along with other small Waders.

113. Larus hemprichi (Bruch.); Elliot, Field Columb. Mus., Orn. i. no. 2, p. 64 (1897).

No. 20. Berbera, Jan. 18, 1897. Iris brown.
No. 21. „ „ „ „ „

This is the common Gull of the Gulf of Aden. It does not seem to care much for sitting on the water, perhaps on account of the sharks, but prefers buoys or boats as a resting-place when not on the wing; and people who are particular as to the condition of their boats resort to various devices for scaring away these untidy visitors, a string of small red flags being most effective.

114. Tachybaptes capensis (Salvad.); Sharpe, P. Z. S. 1895, p. 515.

No. 240. ♂ juv. Gedaïs wells, Mar. 2, 1897.

We met with this single specimen in a water-hole, where it was evidently feeding on the tadpoles which were swarming in the pond.

115. Vinago waalia (Gm.); Lort Phillips, Ibis, 1896, p. 85.

No. 231. ♀. Wagga, Mar. 8, 1897. Iris red, feet yellow.
No. 259. ♂. Goolis foot-hills, Mar. 17, „ „ „
No. 260. ♀. „ „ „ „ „ „

Very common on the Goolis range and on Mt. Wagga. During the heat of the day they love the deep shade afforded by the sycamore fig-tree, which is always to be found in the vicinity of water.

116. Œna capensis (Linn.); Sharpe, P. Z. S. 1895, p. 518.

No. 79. ♀. Sheikh ruins, Jan. 30, 1897. Iris hazel.

This little Ground-dove is very plentiful on the Goolis.

117. Chalcopelia afra (Linn.); Sharpe, P. Z. S. 1895, p. 518.

No. 162. ♂. Wagga, Feb. 21, 1897. Iris black.
No. 163. ♀. „ „ „ „ „
No. 173. ♂. „ Feb. 23, „ „ „

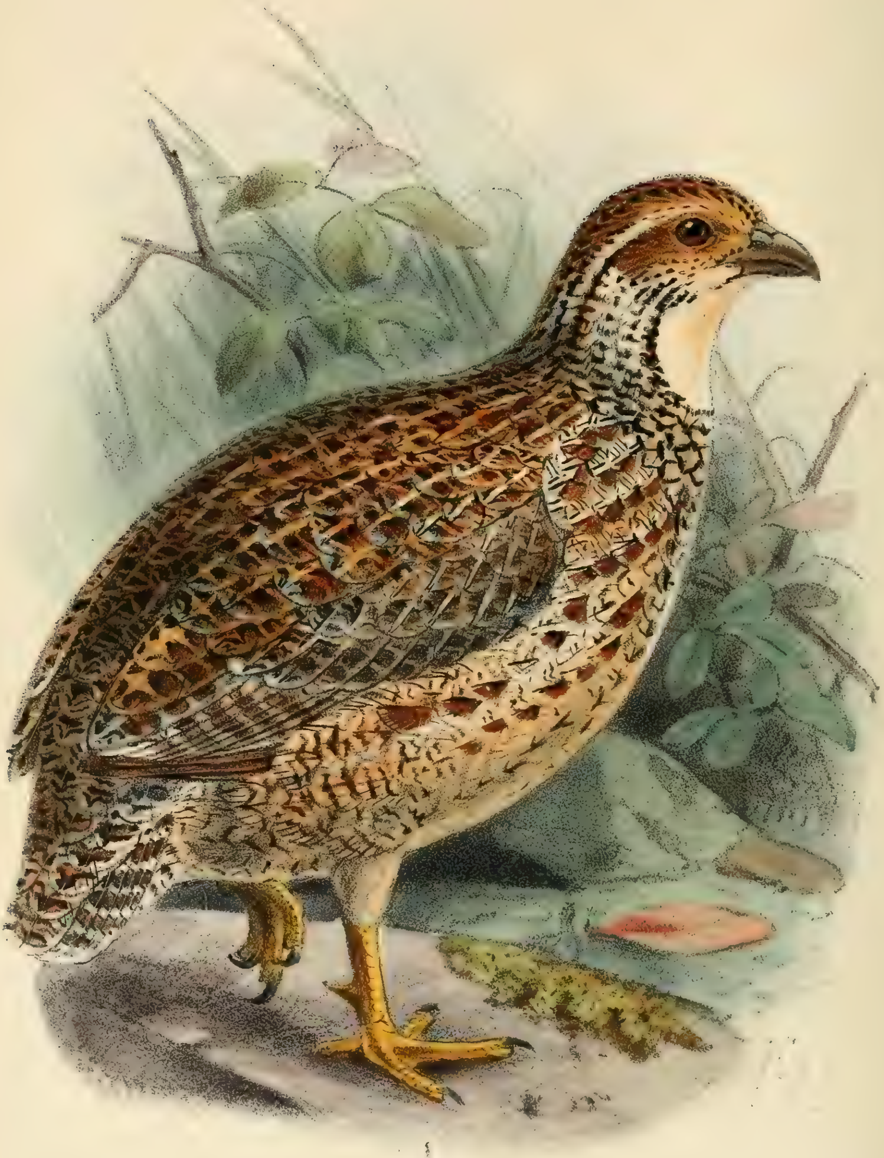
118. Pterocles lichtensteini Temm.; Salvad. Mem. R. Accad. Sci. Torino, (2) xliv. p. 561.

No. 241. ♀. Gedaïs wells, Mar. 12, 1897. Iris brown.
No. 242. ♂. „ „ „ „ „ „
No. . Sheikh wells.
No. . „ „

This is the common Sand-grouse of the Goolis range, and its habits do not seem to differ from those of other species.

[illegible]
CENTRAL PARK,
NEW YORK.
NATURAL HISTORY

Ibis.1898.Pl.X.



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Mintern Bros imp.

FRANCOLINUS LORTI.

At nightfall small flocks arrive at the water-holes in quick succession, and for about 20 minutes after sunset the air is filled with their soft guttural call-note, which, once heard, is never forgotten, and seems to be common to all the species of Sand-grouse I have met with.

119. PTERNISTES INFUSCATUS Cab.; Salvad. Mem. R. Accad. Sci. Torino, (2) xliv. p. 562.

No. 122. ♂. Sogsoda, Feb. 2, 1897. Iris brown.
No. 285. ♀. The Gooban, Mar. 22, „ „ „

120. FRANCOLINUS KIRKI Hartl.; Grant, Cat. B. Brit. Mus. xxii. p. 149 (1893).

No. 157. ♀. Sogsoda, Feb. 19, 1897.
No. 185. ♂. „ „ „ Iris brown.

This Francolin has been determined for me by Mr. Ogilvie Grant.

121. FRANCOLINUS LORTI Sharpe, Bull. Brit. Orn. Club, vi. p. xlvii. (Plate X.)

No. 213. ♂. Wagga Mountain, 9000 feet.

This Francolin is most nearly allied to *F. gutturalis*, with the dotted line of spots skirting the throat more continuous and not separate, so that they form a line. It approaches *F. uluensis* in having a white patch on the sides of the neck spotted with black. The chestnut patches on the feathers of the fore-neck and chest are much deeper in colour, and the black markings on the rest of the underparts are very narrow and linear or arrow-shaped. The flanks are very scantily marked with the same deep chestnut-brown as the chest. The rufous on the quill-lining is much less and is almost confined to the basal half, resembling *F. uluensis*.

Total length 12·5 inches, culmen 1, wing 6·6, tail 4·75, tarsus 1·75.

XXXVI.—*Proceedings at the Anniversary Meeting of the British Ornithologists' Union*, 1898.

THE Annual General Meeting of the British Ornithologists' Union was held at the rooms of the Zoological Society of

London, 3 Hanover Square (by permission of the Council of that Society), on Wednesday, the 11th of May, at 6 P.M., Mr. F. DuCane Godman, F.R.S., President, in the Chair. The Minutes of the last Annual Meeting having been read and confirmed, the Report of the Committee was read. It stated that among the losses of Members by death since the last Anniversary they had to record the names of Sir John W. P. Campbell-Orde, Bt., Mr. William Graham, Sir George Lawson, K.C.B., Mr. H. Stacey Marks, R.A., Mr. D. Meinertzhagen, and Mr. C. Bygrave Wharton.

Four Members had withdrawn, and the elections of three others had been cancelled for non-payment of their entrance-fees and subscriptions.

The number of the Members of the Union was 324, consisting of 294 Ordinary, 1 Extraordinary, 9 Honorary, and 20 Foreign Members.

There were 27 Candidates for the Ordinary Membership and 1 for the Honorary Membership to be balloted for.

The General Index of 'The Ibis' for the years 1877–1894 had been completed and issued to the Subscribers. It had been prepared upon the same plan as its predecessor, and formed a volume of 471 pages. As would be seen by the accounts submitted to the Meeting, the cost of this Index had been defrayed, but the finances of the Union had been somewhat taxed thereby, so that the contemplated Subject Index could not be proceeded with until the state of funds of the Union should justify the outlay. This desired result would be greatly hastened if those Members who had not already done so would purchase the 'General Index' now ready, without which their sets of 'The Ibis' could not be considered complete.

The Committee proposed to close the subscription of £1 1*s*. for the two Index-volumes on August 1st next, after which date the price of *each* Index would be £1 1*s*.

The Report having been adopted, the accounts for the year were presented by the Secretary, and approved by the Meeting.

The following 27 Candidates were then balloted for and declared to be duly elected Ordinary Members of the British Ornithologists' Union:—Ivers Bland, Newbold Firs, Leamington: George Albert Booth, Fern Hill, Grange-over-Sands: Alfred Heneage Cocks, F.Z.S., Thames Bank, Gt. Marlow: The Hon. Richard Coke, Scots Guards: Alan F. Crossman, St. Cuthbert's, Berkhamsted: Reginald A. Crowley, Highfield, Alton: The Hon. John J. Dalrymple, Scots Guards: Lieut. Stuart St. J. Farquhar, R.N., H.M.S. 'Eclipse': George E. Foster, J.P., Brooklands, Cambridge: Lieut. Anthony F. Gurney, R.N., H.M.S. 'Wigeon': Charles R. Haines, M.A., Meadhurst, Uppingham: The Rev. James R. Hale, B.A., Yalding, Kent: Richard Hawker, Bath Club, Dover Street, London, W.: A. Ernest Learoyd, Rawthorpe Hall, Huddersfield: Dudley Le Souëf, Zoological Gardens, Melbourne: William L. S. Loat, F.Z.S., Newland, Coleford, Gloucestershire: Herbert Massey, Ivy Lea, Burnage, Withington, Manchester: Aymer E. Maxwell, Grenadier Guards: Horace C. Monro, Queen Anne's Mansions, S.W.: Arthur Newall, Wilsford House, near Salisbury: Eric Frank Penn, Taverham Hall, Norwich: Athelstan E. Price, Broxbourne, Herts: Edward M. H. Riddell, 9 Minster Yard, Lincoln: Herbert C. Robinson, Holmwood, Aigburth, Liverpool: Henry Scherren, 9 Cavendish Road, Harringay, N.: William Stirling, Fairburn, Muir of Ord, N.B.: and Joseph Wiglesworth, M.D., County Asylum, Rainhill, Lancashire.

Dr. Emil A. Goeldi, of the Museu Paraense, Pará, Brazil, was also balloted for and elected an Honorary Member.

Mr. F. DuCane Godman, F.R.S., was re-elected President, and Mr. Osbert Salvin, M.A., F.R.S., Secretary of the Union for the ensuing year, and Mr. E. W. Oates was elected into the Committee in the place of Mr. J. E. Harting, who retired by seniority.

After a vote of thanks to the Chairman, the Meeting adjourned.

The Annual Dinner, subsequently held at Limmer's Hotel, was attended by 33 Members and guests.

XXXVII.—*Bulletin of the British Ornithologists' Club.*

Nos. LII.–LIV.

No. LII. (March 28th, 1898).

The fifty-first Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 16th of March, 1898. *Chairman*: P. L. Sclater, F.R.S. Twenty-six Members and two guests were present.

Mr. W. E. De Winton exhibited a specimen of *Perdix daurica*, purchased in Leadenhall Market. Several hundred specimens of this Partridge were on sale in the market, but their exact origin could not be ascertained. The birds were in excellent condition and had evidently not been shot. That they had come from some Mahommedan district of Asia was equally obvious, as every specimen examined at the British Museum was found to have its throat cut.

Mr. Howard Saunders exhibited the specimen of the small Shearwater obtained off the island of Valentia, Kerry, on the 11th of May, 1853. For years this had been identified as the Dusky Shearwater, *Puffinus obscurus* (Gm.), but recent investigations by Mr. Ogilvie Grant in the islands near Madeira, as well as by Mr. Boyd Alexander in the Cape Verde Archipelago, had aroused a suspicion that there might be an error in the identification of the Irish bird. The authorities of the Science and Art Museum of Dublin having kindly forwarded the example in question for comparison with the specimens of *P. obscurus* in the British Museum, it had been clearly established that this was not *P. obscurus*, but the closely allied *P. assimilis* of Gould, which might be distinguished from *P. obscurus* by its smaller size, by the white or pale centres to the inner webs of the primaries, the white under tail-coverts, and a more decided white line on each side of the neck. The identification had been confirmed by Mr. Osbert Salvin. *P. assimilis* bred in the islands of the Madeira and of the Canary groups, as well as in the Cape Verde Islands, while *P. obscurus* breeds in the Bermudas and the Antilles. Both species have a wide range.

Mr. F. W. Styan sent for exhibition a new Woodpecker from Fohkien, which he proposed to call—

Chrysophlegma ricketti, sp. n.

Adult male. Most nearly allied to *Chrysophlegma pierii*, but different from that and other allied species in having the primaries coarsely barred with chestnut and black to the extremity; the chin, moreover, being rufous streaked with black, and only the malar region white with a faint yellowish tinge.

Hab. Ching Ting, Fohkien.

Mr. Sclater brought forward the subject of "Bipolarity," which had been much discussed recently in the debates on the question of the scientific advantages of an Antarctic expedition, and remarked that in the case of the higher Vertebrates, or in that of Birds at least, no sort of "Bipolarity" could be stated to exist, whatever might be the case in the lower marine animals. Mr. Sclater exhibited a list (see p. 430) in which the birds of Arctica, as represented by the known birds of Franz Josef Land (*cf.* Ibis, 1898, p. 249), were contrasted in parallel columns with those of Antarctica (*cf.* Ibis, 1894, p. 494), and pointed out that not only were all the Species different, but nearly all the Genera and most of the Families and Orders. Three species of Passeres were found in Arctica, whereas not one was known from Antarctica, although there were vague rumours about a *Corvus* having been seen there. An Owl and a Hawk were found in Arctica, but no *Accipitres* had yet been met with in Antarctica. At least two species of *Anseres* were found in Arctica, but there were only uncertain reports of a Goose of some kind in Antarctica. Three species of Tringoid *Limicolæ* occurred in Arctica, whereas in Antarctica only the Sheathbill (*Chionis*), belonging to a peculiar Antarctic Family, was known. Among the *Gaviæ* the correspondence was better, as the genera *Sterna*, *Larus*, and *Stercorarius* were represented in both the Polar Extremities, but the species were in every case different. The Order *Tubinares* was essentially Antarctic, at least ten species having been met with in Antarctica, whereas in the Arctic regions *Fulmarus glacialis* was the sole representative of the group. On the other hand, when we came to the *Pygopodes,* which were essentially an Arctic group, three species were amongst the more abundant of birds in the Arctic regions, and a fourth had occasionally been met with, but not a single form of this group was found in Antarctica. Descending to the *Impennes,* at the bottom of the list, we came again to an essentially Antarctic group, which was absolutely unknown in the Arctic regions, but was well represented by multitudinous individuals of at least four species in Antarctica.

The facts, therefore, as regards Arctic and Antarctic birds might be shortly summarized by stating that no two Avifaunas could be more essentially different, not a single species being identical, and only three genera out of seventeen, whilst the *Pygopodes* of the North were replaced by the absolutely different Order *Impennes* in the South.

Birds of Arctica.		*Birds of Antarctica.*
	I. Passeres.	
1. Plectrophenax nivalis.		
2. Calcarius lapponicus.		Corvus, sp. inc. (?).
3. Otocorys alpestris.		
	II. Striges.	
4. Nyctea scandiaca		
	III. Accipitres.	
5. Falco candicans (?).		
	IV. Anseres.	
6. Bernicla brenta.		Chloephaga, sp. inc. (?).
7. Somateria mollissima.		
	V. Limicolæ.	
8. Tringa fuscicollis.		1. Chionis alba.
9. —— striata.		
10. Calidris arenaria.		

Birds of Arctica.	*Birds of Antarctica.*
VI. GAVIÆ.	
11. Sterna macrura.	2. Sterna hirundinacea.
12. Rhodostethia rosea.	3. Larus dominicanus.
13. Larus glaucus.	4. —— scoresbyi.
14. Pagophila eburnea.	5. Stercorarius antarcticus.
15. Rissa tridactyla.	6. —— maccormicki.
16. Stercorarius crepidatus.	
VII. TUBINARES.	
	7. Diomedea fuliginosa.
	8. Oceanites oceanicus.
	9. Majaqueus æquinoctialis.
17. Fulmarus glacialis.	10. Thalassœca glacialoides.
	11. —— antarctica.
	12. Ossifraga gigantea.
	13. Daption capensis.
	14. Prion vittatus.
	15. —— desolatus.
	16. Pagodroma nivea.
VIII. PYGOPODES.	
18. Colymbus septentrionalis.	
19. Uria mandti.	
20. —— bruennichi.	
21. Mergulus alle.	
IX. IMPENNES.	
	17. Aptenodytes forsteri.
	18. Pygosceles adeliæ.
	19. —— tæniata.
	20. Eudyptes antarctica.

Mr. BLAAUW exhibited eggs of a Weka Rail (*Ocydromus australis*), laid in his park at Gooilust, which bore a curious similarity to the eggs of *Aramides ypecaha* laid under exactly the same circumstances. Only a small difference in the shape distinguished the eggs of these two Rails from such distant parts of the world as New Zealand and South America.

No. LIII. (April 30th, 1898).

THE fifty-second Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 20th of April, 1898. *Chairman*: P. L. SCLATER, F.R.S. Thirty-one Members and seven guests were present.

Mr. G. E. H. BARRETT-HAMILTON exhibited some specimens of birds from Kamchatka obtained during his recent trips to the North Pacific, the most interesting being an apparently new species of Nutcracker, which he described as follows:—

NUCIFRAGA KAMCHATKENSIS, sp. n.

N. similis *N. caryocatacti,* sed nigra, nec brunnescens, et remigibus ad apicem albo maculatis vel marginatis. *N. multipunctatæ* potiùs affinis, et maculis albis magnis ornata, sed areâ albâ rectricum terminali minùs extensâ (1·3–1·5). Long. tot. 13·0 poll., culm. 1·85, alæ 7·2, caudæ 4·6, tarsi 1·55.

Mr. REGINALD B. LODGE exhibited some of his 'Photographs of Bird Life,' which included figures of many British Birds, as well as of other species from the marshes of Holland and Southern Spain.

Mr. HEATLEY NOBLE brought for exhibition an egg of the Great Auk recently acquired by him, and gave a history of the specimen.

Mr. H. L. POPHAM exhibited some clutches of eggs of different species of Thrushes procured by him during his journey to the Yenesei Valley, among which were series of those of *Turdus obscurus* and *Geocichla sibirica.*

Mr. JOSEPH I. S. WHITAKER sent a description of an apparently new species of Shore-Lark from the Atlas Mountains in Morocco, and proposed for it the name

OTOCORYS ATLAS, sp. n.

♂. Similis *O. elwesi* et regione nigrâ paroticâ minimè cum fasciâ pectorali conjunctâ: frontis basi nigrâ: tectricibus alarum arenaceo-brunneis, dorso concoloribus, nec vinaceis: gulâ pallidè sulphureâ sicut in *O. alpestri.*

Hab. Glani, Atlas Mts., Morocco.

Mr. SCLATER, having just returned from a short visit to Malta, proposed to say a few words about the Ornis of that Island. According to the last authorities, the birds of the Maltese group were rather over 300 in number. Of these only some twelve were resident species, breeding in the islands, the remainder being either migrants that pass through in spring and autumn, or occasional visitors. Our leading authority on Maltese ornithology was, of course, Mr. C. A. Wright, whose papers on this subject ('Ibis,' 1864–1870) would be well known to the members of the B. O. C.; but Prof. Giglioli having included Malta within the scope of his 'Avifauna Italica,' reference should also be made to that work, and likewise to Dr. R. Blasius's lately published 'Ornis v. Malta u. Gozo' (see 'Ibis,' 1895, p. 388).

Mr. Sclater had examined the collection of birds in the Museum of the University of Valetta, which contained from 400 to 500 examples of Maltese Birds. These were, unfortunately, badly mounted and cared for, and imperfectly named, and required thorough rearrangement and renewal. He had also had the pleasure of visiting the private collection of Major Francia, R.M.R., which had only lately been commenced, but contained about 100 nicely mounted specimens, many being of considerable rarity. Mr. Sclater suggested that a Handbook of Maltese Birds brought up to date would be a very useful and easy piece of work, and expressed a hope that some member of the B. O. U. would take up the subject.

Mr. W. E. DE WINTON made some further remarks on the Siberian Partridges (*Perdix daurica*), of which so many had recently come to the London markets.

No. LIV. (May 25th, 1898).

THE fifty-third Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 18th of May, 1898. *Chairman*: P. L. SCLATER, F.R.S. Twenty-eight Members and two guests were present.

Mr. SCLATER exhibited a pair of eggs of the South African Thick-knee (*Œdicnemus capensis*), forwarded to him by Mr. J. E. Matcham, C.M.Z.S., of Port Elizabeth, as those of the "Dik-kop" of that district. There was one similar egg of the same species in the collection of the British Museum obtained by Mr. E. L. Layard.

Mr. SCLATER exhibited a second series of beautiful photographs of the nests and eggs of Australian Birds, transmitted to him by Mr. Dudley Le Souëf, C.M.Z.S., Assistant-Director of the Zoological Gardens at Melbourne. Amongst these were figures of the nests of the Victoria Lyre-bird (*Menura victoriæ*), the Emu-Wren (*Stipiturus malachurus*), and the rarely-found nest (with one egg) of Jardine's Caterpillar-hunter (*Campephaga jardinii*).

Mr. ERNST HARTERT exhibited the type specimens of two new birds obtained by Mr. A. L. Butler on the Gunong Ijau, Perak, Malay Peninsula, and characterized them as follows:—

SERILOPHUS ROTHSCHILDI, sp. n.

Differs from *S. lunatus*—with which it agrees in the peculiarly shaped tips of the longest primaries—in being darker and greyer above; crown of the head pure grey, not pale rusty brown; ear-coverts grey, with hardly a tint of brown, while they are pale brown in *S. lunatus*, and the rufous colour on the secondaries is deeper; round the eye a narrow ring of white feathers. "Iris greenish brown, mottled with golden specks; eyelid and base of mandible for about $\frac{1}{8}$ inch bright gamboge-yellow; bill pale whitish blue, tip and lateral edges whitish; feet pale greenish chrome, claws milky blue" (*A. L. Butler*).

Hab. Gunong Ijau, 3000 feet. Named in honour of Mr. Walter Rothschild, at Mr. Butler's request.

CRYPTOLOPHA BUTLERI, sp. n.

♂ *ad.* Crown of the head dark rufous, with a broad deep brown lateral stripe; sides of the head and back ashy grey; lower back, rump, scapulars, smaller upper-wing-coverts, edges to the primaries and rectrices, yellowish green; larger upper-wing-coverts blackish, with a greenish wash and greenish-yellow tips; throat and fore-neck to the chest pale grey; middle of the abdomen white; sides of body, under wing-coverts, axillaries, vent, and under tail-coverts lemon-yellow. "Iris reddish brown; bill dusky, mandible yellowish flesh; feet brownish yellow" (*A. L. B.*).

Wing 51–54 mm., tail 42–45, bill 6·5–7, tarsus 16–16·5.

Nearest to *C. castaneiceps*, but easily distinguished by its darker rufous crown and grey back, besides other differences. Named in honour of Mr. Butler.

Hab. Gunong Ijau, 4000 feet.

Mr. HARTERT also announced that Mr. A. H. Everett, M.B.O.C., had returned to England, and was at 88 Great Portland Street, W., suffering from his long and arduous labours in tropical climates. It was unanimously resolved that an expression of the sympathy of the Club should be conveyed to Mr. Everett, whose illness would, it was hoped, soon pass away; meanwhile he was quite able and anxious to receive visits from his brother-ornithologists.

The Hon. WALTER ROTHSCHILD sent the following communication:—

The expedition sent out to the Galapagos Islands by Frank Blake Webster, at my suggestion, has been very successful, and the collection of birds is the largest and finest yet made in that group. The collectors stayed one day at Clarion Island and procured 85 birds, among which was a fine series of the new *Sula* described hereafter. Of the 105 species enumerated by Ridgway as occurring in the Galapagos Islands, good series of nearly all were obtained. Several authors have mentioned the breeding-place of an Albatross on Hood Island, but no specimens were ever collected; while two species of Albatross were mentioned by former visitors to the islands, and Ridgway suggested that they would be *Diomedea exulans* and *D. nigripes*. The present expedition, however, found only one species of Albatross on Hood Island, and that proved to be *Diomedea irrorata* Salvin, of which hitherto only the type in the British Museum was known. The second supposed dark species will probably be the young of the above.

In addition to nearly all the species known to inhabit the archipelago, examples of several others were obtained, some seven or eight of which are new to science.

Mr. Hartert will show you the type specimens of six new species, of which I send you the descriptions. One species is named after Mr. Frank Blake Webster, who arranged and sent out the expedition, and one after each of the collectors.

PHALACROCORAX HARRISI, sp. n.

This is the most remarkable discovery made during the expedition.

Adult: upperside brownish black, bases of feathers blackish grey; scapulars and wing-coverts dark hoary grey, with black borders; a number of white filaments scattered about head and neck. Underside a mixture of pale brown and grey; tail black; quills blackish brown, with greyish tips on outer margin.

This bird is the largest known Cormorant, being if anything bigger than the extinct *Ph. perspicillatus*, and its wings are quite soft and incapable of flight, and of about the same size as the wings of the Great Auk, *Alca impennis*.

Wing of *Ph. harrisi*, 7 to 7·5 inches.
,, *Alca impennis*, 6·7 inches.

Hab. Narborough Island, Galapagos group.

SULA WEBSTERI, sp. n.

Adult, in white plumage closely resembling *S. piscatrix*, having the same hoary-grey on the primaries, but at once distinguishable by its dark brownish-grey tail; the bill is also more slender, and the red at the base of the mandible is more extended. Young in grey plumage somewhat variable, very different from the young of *S. piscatrix*, being not so dark above and the feathers of the back uniform brown, not edged with light grey; below darker than the young of *S. piscatrix*. Size of *S. piscatrix*.

Hab. Clarion Island, Galapagos, and the neighbouring seas.

NESOMIMUS HULLI, sp. n.

Similar to *N. melanotis*, but with the buffy-white tips of the primaries—and still more those of the secondaries—decidedly wider, and with a distinct moustache-like line of black spots from the base of the mandible to the neck.

Culpepper Island. A good series.

NESOMIMUS AFFINIS, sp. n.

Near *N. parvulus* from Albemarle, but easily distinguished by its deeper, almost uniform dark brown upper surface and the more heavily streaked sides of the body. Chest with a more distinct brownish shade.

Narborough Island. A small series.

CERTHIDEA BECKI, sp. n.

Very closely allied to *C. fusca* Scl. & Salvin, from Abingdon Island, but generally darker above and below, especially the sides of the body and chest more brownish. Bill in many—but not in all—specimens a little shorter; wing considerably longer, in males always above 55 mm. (generally 57–58, never more than 58), in females about 54–55·5 mm.; while in *C. fusca* the wing of the males does not exceed 54 mm. in length, that of the females being only 50–52 mm.

Wenman Island. A good series.

CERTHIDEA DROWNEI, sp. n.

Closely allied to *C. becki*, but generally larger; beak stouter, throat rusty, crown darker. Wing of one, marked male, 62 mm., of another, also marked male, but probably a female, 57 mm.

Culpepper Island. Only two specimens.

The Hon. WALTER ROTHSCHILD also sent for exhibition two new birds from British New Guinea, which he described as follows:—

IFRITA, gen. nov.

Of doubtful affinities, but probably near *Amalocichla* and *Cinclosoma*, agreeing with the latter genus in the form of the bill, but differing in its softer body-plumage, longer toes, softer tail and wings, and less graduated tail. Agreeing with *Amalocichla* in its soft plumage, but differing totally in the less compressed, shorter, and stouter bill. The wings are evidently of the usual rounded form of the *Timeliidæ*, but cannot be described, being in moult. The tail is incomplete, but seems to be almost square; bill a little shorter than the head; the strong tarsus about half as long as the tail.

IFRITA CORONATA, sp. n.

Crown black, with a broad blue circle; lores and a narrow frontal line buff. Above the eye a small rusty buff patch, below the eye a black semicircle. Ear-coverts dark brown, behind the eye a patch of elongated white feathers. Rest of upper parts olive-brown; tail and wings dark olive-brown; quills with more yellowish-brown outer edges and rust-coloured inner edges. Some of the wing-coverts with buff tips. Below pale ochraceous, washed with olive-brown on the flanks and vent; throat lighter, almost whitish. Under-wing-coverts bright ochraceous buff. Maxilla deep brown, mandible light-coloured. Wing about 88 mm., tail about 63, exposed part of bill 19, tarsus 29.

Low country east of Port Moresby, Brit. New Guinea.

Charmosyna atrata, sp. n.

♂. Bill red; forehead purplish black, centre of crown darker. A patch of elongated lilac-blue feathers on the occiput; neck and upper back black, with a reddish shade; under surface dull black, sides of the breast dark green; back and upper wing-coverts dark green; lower back, rump, and sides of the belly carmine; rump with a large patch of lilac-blue; upper tail-coverts dark purplish green; quills black, outer webs broadly bordered with dark green; lateral rectrices green, with very narrow yellow edges near the tip, blackish towards the base, without any red; central rectrices absent; thighs purplish black; under tail-coverts dark purplish, with deep crimson tips; feet orange, with black claws. Wing 146 mm.

Hab. Mt. Scratchley, British New Guinea.

Mr. R. McD. Hawker described two apparently new species of birds discovered by himself in Western Somaliland:—

Apalis viridiceps, sp. n.

A. similis *A. flavocinctæ,* sed maris pectore haud nigro notato, et pileo viridescente dorso concolore distinguenda. Long. tot. 4·7 poll., culm. 0·5, alæ 2·05, caudæ 2·2, tarsi 0·8.

Hab. Sheik Woofly, Somaliland.

Mirafra marginata, sp. n.

M. similis *M. cantillanti,* sed marginibus tectricum alarum latissimè arenaceis distinguenda. Long. tot. 5·0 poll., culm. 0·5, alæ 2·95, caudæ 1·85, tarsi 0·9.

Hab. Ugiagi, Somaliand.

Mr. Hawker's collection from Somaliland also contained specimens of *Lanius pomeranus, Iynx torquilla, Falco cenchris, Motacilla alba,* and *Anthus campestris.*

Mr. H. J. Pearson exhibited a case containing specimens of the adults with their young in down of the Reeve, Temminck's Stint, Dotterel, Red-necked Phalarope, and other species, obtained on his expedition to Waigats.

XXXVIII.—*Notices of recent Ornithological Publications.*

[Continued from p. 310.]

52. *Andrews on a Skeleton of* Megalapteryx.

[On a Complete Skeleton of *Megalapteryx tenuipes* in the Tring Museum. By C. W. Andrews. Novitates Zool. iv. p. 188.]

The well-preserved and nearly complete skeleton of *Megalapteryx tenuipes* in the Tring Museum is described and illustrated in this paper. It was discovered in a cave at Pockeroy Nelson, in the South Island of New Zealand, about 1865. It is now certain that *Megalapteryx* is in all respects Dinornithine, and does not belong to the Apterygidæ.

53. *Annals of Scottish Natural History.*

[The Annals of Scottish Natural History, a Quarterly Magazine, with which is incorporated 'The Scottish Naturalist.' No. 25, January 1898, and No. 26, April 1898.]

In No. 25, the first paper which comes within our scope is one on the Minor Faunal Areas of Scotland, by Mr. J. A. Harvie-Brown, who advocates the division (for the more accurate study of such phenomena as those of distribution and dispersal) of larger areas into smaller ones, and has already given us an example of how this may be done in the case of Scotland, which he has separated into "minor faunal areas" from "topographical and faunal standpoints." In a similar way he believes that England may be divided into six or seven "Natural Faunal Areas," of which the Rev. H. A. Macpherson's "Lakeland" would be one. To do this satisfactorily he points out that we require an "accumulation of facts, combined with the ability to draw fairly accurate deductions from them." Here is an excellent opening for work for some of our many students of British bird-life. May we venture to ask Mr. Harvie-Brown and others who are writing on this subject to avoid the use of the dubious term "*watershed*," which has been used in two senses, and to employ in its stead either "*water-basin*" or "*water-parting*," whichever they may mean. See Huxley's 'Physiography' on this point.

Mr. W. Eagle Clarke follows with an article on Hybrids between the Capercaillie and the Pheasant. Mr. Peter Adair contributes notes on the Birds of Ettrick, in which an important feature is the record of the diminution in the numbers of the Short-eared Owl in the district since the subsidence of the plague of voles in 1893. The nesting of the Wigeon in the above area during the last three years marks a southward extension of the breeding-range of that species, and more evidence will shortly be received on this point. That Col. W. C. Verner should have shot a Long-eared Owl in North Uist is fairly surprising, but it is nothing to the fact that Capt. Savile Reid and Mr. W. R. Ogilvie Grant found a *nest* of this species *on the ground* on an island in Loch Syre, Sutherlandshire, and in proof thereof one of the parent birds is in the Natural History Museum at South Kensington. Mr. George Sim records a female example of the Lesser Kestrel (*Falco cenchris*) shot in Aberdeenshire on October 25, 1897, and there are other notices of minor interest.

No. 26 opens with a contribution to the Avifauna of West Ross-shire by Mr. J. B. Dobbie, and Mr. J. MacRury follows with some Additions to and Notes upon the birds of the Island of Barra. Mr. John Paterson expresses his dissatisfaction with some supposed remarks of Saunders respecting the relative abundance of the Garden-Warbler and the Blackcap "south of the Grampians;" but we venture to remark that there is no mention of the Grampians in the 1st or the 2nd edition of the 'Manual,' and that after reading and re-reading the passages on the distribution of those species, we are still completely in the dark as to Mr. Paterson's meaning. Mr. Bolam writes to say that Mr. Sim's claim for *Scotland* of a Red-footed Falcon shot near Hauxley is misleading, for Hauxley is in Northumberland, and quite 30 miles south of the Border; and really these "raiders" cannot be allowed to "prick" so far with impunity. Mr. T. E. Buckley's record of the Great Skua in the Moray Firth on October 15th deserves notice for locality and date.

54. *Arrigoni degli Oddi's Notes on Italian Ornithology.*

[(1) Nota sopra una Varietà di Colorito osservata in un *Anas boscas* Linn. Del Prof. E. Arrigoni degli Oddi. Atti Soc. Ital. Sci. Nat. Milano, xxxvii. p. 208.

(2) Sopra gli Ibridi del tipo *Anas boscas* Linn. e *Chaulelasmus streperus* (Linn.) colti in Italia. Del Prof. E. Arrigoni degli Oddi. Atti R. Instit. Veneto d. Sci. ser. 7, viii. p. 1540.

(3) Le Recenti Comparse del *Puffinus kuhli* (Boie) nel Veneziano. Del Prof. E. Arrigoni degli Oddi. Atti Soc. Ital. Sci. Nat. Milano, xxxvii. p. 211.

(4) La Nidificazione del *Milvus nigrans* Boddaert nel Territorio Veronese. Per Prof. E. Arrigoni degli Oddi. Atti R. Instit. Veneto d. Sci. ser. 7, ix. p. 93.]

A cinnamomeous (*chlorocrostica*) variation in plumage of a female Mallard (*Anas boscas*) occurring in a specimen killed near Venice in the spring of 1893 is described in the first paper.

In the second Prof. Arrigoni describes five examples of wild-bred Anatidæ between *Anas boscas* and *Chaulelasmus streperus* that have been met with in Italy. About 12 other examples of this cross are stated to be known to have occurred in other parts of the world.

Puffinus kuhli, although well known all over the Mediterranean, appears to be comparatively scarce in the Northern Adriatic. Prof. Arrigoni in the third paper records the occurrence of 20 specimens of this bird near Venice in the spring of last year, of which eight were preserved in various collections.

After a summary of the statements of previous authorities upon the occurrence of the Black Kite (*Milvus migrans*) in the various districts of Italy, the writer describes at full length in the fourth paper a regular breeding-place of this bird in the "bosco del Grezzano," near Villafranca, in the province of Verona. The Kites arrive here in the middle of March, and remain until August and September. Copious details are given of their nests, eggs, food, and habits, and accurate descriptions of the plumages of the young and adults of both sexes.

55. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xv. Nos. 1, 2, January & April, 1898.]

An obituarial notice, with portrait, of the much-regretted Capt. Bendire occupies the first place in the January part of our transatlantic contemporary. This is followed by an article by Mr. W. Richmond on the Cayenne Swift (*Panyptila cayennensis*), with a coloured plate of the bird and its curiously-shaped nest, which, however, we may remark, has already been well described by Mr. Quelch (see Bull. B. O. C. vi. p. xxvii, and Ibis, 1897, p. 263)—a fact which Mr. Richmond ought not to have overlooked. Dr. Coues contributes a hitherto unpublished letter from W. Swainson to J. Audubon, in which a literary partnership is declined. Dr. J. C. Merrill concludes his "Notes on the Birds of Fort Sherman, Idaho"; Mr. H. C. Oberholser distinguishes the Texan form of the Humming-bird *Amazilia cerviniventris* Gould as *A. c. chalconota* subsp. n.; Mr. A. W. Anthony distinguishes yet another Noddy, from the Cocos and Socorro Islands, as *Anous stolidus ridgwayi*, and describes a new Petrel, smaller and with a more forked tail than *O. leucorrhoa*, as *Oceanodroma kaedingi* sp. n., from the seas between Socorro and Southern California; he also writes a short paper on other sea-birds. Dr. C. Hart Merriam describes *Syrnium occidentale caurinum* subsp. n., from the Puget Sound region; and there are other minor communications of local interest. A Report from the A.O.U. Committee on Protection of North-American Birds covers pp. 81–114, and well deserves attention.

The April number begins with an article by Mr. E. W. Nelson on *Colinus godmani*, with a plate, and on other Mexican Quails; and the same author has another paper on Mexican birds. Mr. Joseph Grinnell gives an account of 66 species of birds found at Sitka, Alaska, in summer; and Dr. W. C. Rivers sends a contribution on the avifauna of the spruce-belt in the mountains of Virginia. Mr. Anthony writes at some length on the Petrels of Southern California. Mr. G. H. MacKay's name is yet again associated with the Terns of Muskeget Island. In a paper on some new races of Birds from Eastern North America, Mr. Outram Bangs resuscitates Audubon's "Bird of Washington" as *Haliaëtus leucocephalus washingtoni*, subsp. restaur., and names seven other subspecies, which will doubtless be duly enumerated by the Recorder of *Aves* in the 'Zoological Record.'

Dr. L. Stejneger states that he has received a fully adult example of *Rhodostethia rosea* from Bering Island, obtained on December 10th, 1895.

56. *Baron on North-Peruvian Humming-birds.*

[Notes on the Localities visited by O. T. Baron in Northern Peru and on the *Trochilidæ* found there. By O. T. Baron. Novitates Zool. iv. p. 1.]

Mr. Baron gives a set of very interesting notes on the localities in which the birds collected in Northern Peru and described by Mr. Salvin (Nov. Zool. ii. pp. 1–22) were obtained. Near Cajamarca he found nests of *Patagona gigas* on the ground (!), and of *Oreotrochilus stolzmanni* in a cave, attached to the roof. Many other good field-notes on habits and ranges are given.

57. *Bianchi on the Genus* Carpodacus.

[Uebersicht der palaearktischen Arten der Gattung *Carpodacus* Kaup. Von V. Bianchi. Aus dem Russischen übersetzt von M. Härms. J. f. O. 1898, p. 102.]

Prof. Bianchi's useful memoir on the Fringilline genus *Carpodacus* has been translated from the original Russian (v. Ann. Mus. Zool. St. Petersb. ii. p. 218, 1897) by M. Härms, and republished in the 'Journal für Ornithologie.' The author acknowledges 25 species of this genus, six belonging to the Nearctic and 19 to the Palæarctic Region, in which all but one (*C. erythrinus*) are inhabitants of Alpine districts. Five *Carpodaci* occur within the limits of the Russian Empire, and of two others specimens have been obtained in adjoining countries by Russian explorers. The Palæarctic species only are treated of in the present paper.

58. *Blanford's 'Birds of British India.'*

[The Fauna of British India, including Ceylon and Burma. Published under the authority of the Secretary of State for India in Council. Edited by W. T. Blanford. Birds. Vol. IV. By W. T. Blanford, F.R.S. 8vo. Pp. i–xxi, 1–500. London: Taylor & Francis, 1898.]

With great pleasure ornithologists will welcome the appearance of the fourth and final volume of the 'Birds of British India.' It will be recollected that after completing the first two volumes of this excellent work Mr. Oates was ordered back to India, and was consequently unable to complete his task. Dr. Blanford, the general Editor of the 'Fauna,' was therefore compelled to take the matter in hand himself, and issued the third volume in 1895 (see 'Ibis,' 1896, p. 139). Dr. Blanford is also the author of the fourth volume, which contains an account of the Columbæ, Gallinæ, Hemipodii, Grallæ, Limicolæ, Gaviæ, Steganopodes, Tubinares, Herodiones, Phœnicopteri, Anseres, and Pygopodes of British India, 347 species in all. As in the preceding volume, the work is most carefully and correctly done, and modern vagaries in nomenclature are not usually countenanced. We are pleased to observe that homonyms are abjured and that the White-eyed Duck is called *Nyroca ferruginea* (not *N. africana*!) and the Greenshank *Totanus glottis* (not *Glottis nebularius*!).

59. *Chapman on Mexican Birds.*

[Notes on Birds observed at Jalapa and Las Vigas, Vera Cruz, Mexico. By Frank M. Chapman. Bull. Amer. Mus. Nat. Hist. x. p. 15.]

Mr. Chapman commences his paper by calling attention to the attractions offered to the naturalist by the western coast of Vera Cruz, "bisected," as it is, by two lines of railway, which, within a few hours, convey the traveller from the *tierra caliente* through the *tierra templada* to the *tierra fria*, which is reached at an altitude of some 5500 feet. Here the palms and heliconias of the tropical zone and the ferns and coffee-groves of the temperate zone are replaced by forests of oaks and pines, which continue until the arid alpine zone or the *tierra fria seca* is approached, at an altitude of about 8000 feet. From this point to the city of Mexico the treeless region of the great central plateau is traversed.

Mr. Chapman's collections were made in March and April 1897, at two places on the Mexican Railway between Vera Cruz and Mexico—Jalapa and Las Viguas. Jalapa, at a height of 4400 feet, is in the *tierra templada*, and it is now evident that the collections formerly made by de Oca when resident there contained examples of species belonging to the *tierra caliente* and *tierra fria* which are never met with in that vicinity. Mr. Chapman therefore does well to give us an exact list of the 107 species of which he collected or observed specimens at Jalapa, and thereby fixes their locality. Useful field-notes are added, and the curious pendent nest of *Platypsaris aglaiæ* is described and figured. Amongst the less-known species met with at Jalapa was the scarce Greenlet *Vireo amauronotus,* which was heard singing daily, and proved to be a common bird in this district.

Forty miles beyond Jalapa lies Las Viguas, in the humid alpine zone on the border of the tableland, at an elevation of 8000 feet. Here the Trogons, Toucans, Tinamous, Ant-birds, Tanagers, and other birds of Jalapa are replaced by Juncos, Crossbills, Creepers, Pine-Finches, Evening Grosbeaks, and other forms characteristic of alpine bird-life. In short, an almost complete change of the avifauna has taken place, so that of 108 resident species observed at Jalapa or Las Viguas only three were met with at both places. Examples of 48 species are recorded from Las Viguas.

60. *Decle's Savage Africa.*

[Three Years in Savage Africa. By Lionel Decle. Methuen & Co. 1898. Pp. 594. 8vo.]

Those interested in Africa and its development should not fail to read Mr. Decle's lively narrative of his three years' travel between Cape Town and Mombasa. At the same time the naturalist will be disappointed at the slight attention paid to the animals and plants which must have obtruded themselves everywhere on the traveller's notice. Birds are seldom mentioned. The "marvellous intelligence" of the Honey-guide (*Indicator*) seems to have been personally witnessed in Bechuanaland, and the Oxpicker (*Buphaga*) is characterized (p. 478) as a "new pest of Africa."

61. *Finn on* Anser erythropus *in India.*

[Note on the Occurrence in India of the Dwarf Goose (*Anser erythropus*), with Exhibition of living Specimens. By F. Finn, B.A., F.Z.S. Proc. Asiatic Soc. Beng. 1898, p. 1.]

Mr. Finn records the exhibition before the Asiatic Society of Bengal of specimens of the Lesser White-fronted Goose (*Anser erythropus*), a species of rare occurrence in British India. Three living examples of it were obtained on January 1st, 1898, from a dealer in Calcutta—who is believed to have received them from Rawul Pindi—and were deposited in the Zoological Garden at Alipore. The "soft parts" in the living bird are carefully described.

62. *Finn on some noteworthy Indian Birds.*

[On some noteworthy Indian Birds. By F. Finn, B.A., F.Z.S. J. A. S. B. lxvi. pt. ii. p. 523.]

Notes are given on *Rhytidoceros narcondami* from the Andamans, *Phasianus humiæ* and its variations (see above, p. 311), and other species. *Nyroca baeri* occurred in the Calcutta bazaar in the cold weather of 1896–97 in far greater numbers than usual. Mr. Finn figures its trachea. We may add that living examples of this Duck have been lately received by the Zoological Society of London from Mr. Finn.

63. *Forbes on an extinct Starling.*

[On an apparently new, and supposed to be now extinct Species of Bird from the Mascarene Islands (previously referred to the Genus *Necropsar*). By H. O. Forbes. Bull. Liv. Mus. i. p. 29 (1898).]

Under the name *Necropsar leguati* Dr. Forbes describes and figures a specimen recently found in a cabinet of the Derby Museum (where it is supposed to have remained undisturbed for nearly fifty years), which was purchased by Lord Derby in 1850 from Verreaux, of Paris, labelled "Madagascar." It is conjectured that this may be an example of the "little bird" stated by Leguat ('Relation de d'Ile Rodrigue,' p. 335) to be found on the Islet au Mat, south of the main island of Rodriguez. Dr. Forbes refers this bird, rather doubtfully, to the genus *Necropsar*, instituted in 1879 by Dr. Günther and Sir Edward Newton for the reception of the subfossil remains of a bird discovered in 1874 by Mr. Slater in Rodriguez (Phil. Trans. vol. 168, p. 427), and believed to be closely allied to *Fregilupus.*

Whether this reference be correct or not, the discovery is one of great interest.

In our notice of Dr. Forbes's paper in the first number of the 'Bulletin' of the Liverpool Museums (Ibis, 1898, p. 161), we regret to find that we omitted to call attention to two new species of Parrots described from specimens in the Derby Museum—namely, *Pœocephalus rubricapillus* from West Africa (op. cit. p. 15) and *Cyanorhamphus magnirostris* from Tahiti (op. cit. p. 21).

64. *Hartert on the Birds of Flores.*

[On the Birds collected by Mr. Everett in South Flores. Part I. By Ernst Hartert. Novitates Zool. iv. p. 513.]

Mr. Hartert now gives us the first part of his account of Mr. Alfred Everett's collection in Flores, to the avifauna of which considerable additions are thus made. Preliminary descriptions of some of the new species have already appeared (see Ibis, 1897, p. 443), but *Phyllergates everetti*, *Zosterops unica*, *Culicicapa ceylonensis sejuncta*, and *Pisorhina alfredi* are now added. Altogether 64 species are enumerated. The curious *Pachycephala nudigula* and two species of *Zosterops* (*Z. crassirostris* and *Z. superciliaris*) are figured.

65. *Hartert on various Humming-birds.*

[Various Notes on Humming-birds. By Ernst Hartert. Novitates Zool. iv. p. 529.]

Mr. Hartert writes on 14 species of Trochilidæ, chiefly on points of nomenclature. He describes *Eriocnemis mosquera bogotensis*, *E. berlepschi*, and *Heliangelus dubius* as new.

66. *Harvie-Brown on the Migration of Birds.*

[The Migration of Birds; a Paper addressed to the Lighthouse-keepers of the English Channel and to the local Ornithologists of the Counties abutting thereon. By J. A. Harvie-Brown. Zoologist, 1897, p. 505.]

Mr. Harvie-Brown appeals to the ornithologists of the South of England for assistance in recording observations on the migration of birds on this coast. On behalf of the

Committee of the British Association on Migration, he asks for returns on the subject from the lighthouses between Varne on the east and Start on the west, and the services of some resident naturalist to supervise these returns, the absence of which causes a serious blot in the Digest of the Reports of the Committee prepared by Mr. Eagle Clarke.

67. *Lee's Photographs of British Birds.*

[Among British Birds in their Nesting-Haunts, illustrated by the Camera. By Oswin A. J. Lee. Pts. VIII.–XI. 4to. Edinburgh: 1898.]

The species figured in their breeding-haunts are:—Part VIII.: *Turdus musicus, Podiceps cristatus, Stercorarius catarrhactes* (2 plates), *Syrnium aluco* (2 plates), *Panurus biarmicus, Numenius arquata* (2 plates), *Chrysomitris spinus.* Part IX.: *Stercorarius crepidatus* (2 plates), *Totanus calidris, Cotile riparia, Uria grylle, Turdus torquatus, Sterna fluviatilis* (2 plates), *Phalaropus hyperboreus, Phylloscopus sibilatrix.* Part X.: *Sterna macrura, Mergus merganser, Fringilla* [melius *Ligurinus*] *chloris, Larus canus, Cuculus canorus* (2 plates), *Accentor modularis, Corvus cornix, Parus cæruleus, Numenius phæopus.* Part XI.: *Erithacus rubecula, Troglodytes parvulus, Corvus frugilegus* (2 plates), *Parus palustris, Aquila chrysaëtus* (2 plates), *Muscicapa grisola, Querquedula crecca, Phasianus colchicus.* All these are quite up to the level of their predecessors, while the vignettes are excellent. Among the latter we would call attention to the illustration of the Goosander bringing its young in its bill from the recesses of a hollow tree, so narrow that it seems marvellous how the old bird could reach the exit; while the letterpress with regard to this species is of unusual interest. All the letterpress is good, and for especial commendation we may select the author's practical remarks upon the egg-stealing proclivities of the over-praised Rook. With regard to the Golden Eagle, Mr. Lee may have good grounds for asserting that "sometimes" it "may be seen sailing majestically over the Border hills"; but we fancy that few persons have been privileged to witness the sight—*on the Borders.* The two vignettes of the Golden Eagle are, however, so spirited as to make amends for any trifling licence with regard to locality.

68. *Lilford's 'Coloured Figures of British Birds.'*

[Coloured Figures of the Birds of the British Islands. Issued by Lord Lilford, F.Z.S., &c., President of the British Ornithologists' Union. Part XXXIII., November 1896; XXXIV., April 1897; XXXV., November 1897; XXXVI.]

We have now the pleasure of recording the completion of this valuable work by the issue, since we last mentioned it (Ibis, 1896, p. 574), of the four final parts, which have been carefully prepared for the press by Mr. Salvin. No more fitting memorial could have been devised for our much-lamented friend, the late President of the B.O.U., than the accomplishment of this excellent piece of work, whereby the name of Lilford will be kept long in the mind of future generations of ornithologists. Lilford's 'Coloured Figures of British Birds' is, without doubt, the best series of illustrations of our feathered favourites that has yet been prepared, and will in all probability long remain so. Its popularity is sufficiently manifest from the simple fact that two editions, of 550 and 400 copies respectively, have been completely exhausted before the last numbers were issued. Happy is the man who sees the seven volumes of Lilford's 'British Birds' on the shelves of his ornithological library. Here is not only a treasure in itself for study and reference on his own subject, but a work that will become still more valuable in future generations.

The following species are illustrated in Parts XXXIII.–XXXV.:—

Part XXXIII. *Saxicola isabellina; Motacilla borealis; Pyrrhula major; Emberiza cioides; Caprimulgus ægyptius; Coccyzus americanus; Phœnicopterus roseus; Mareca americana; Phasianus colchicus, P. torquatus; Vanellus gregarius; Sterna fuliginosa.*

Part XXXIV. *Alauda cristata; Iynx torquilla; Otis macqueeni; Eudromias morinellus; Phalaropus hyperboreus; Tringa fuscicollis; Totanus flavipes, T. fuscus; Pelagodroma marina;*

Puffinus anglorum; Fulmarus glacialis; Colymbus adamsi.

Part XXXV. *Phylloscopus proregulus, P. viridanus; Ardea virescens; Cygnus olor; Anas carolinensis, A. discors; Porphyrio cæruleus; Tringa minutilla; Sterna anæstheta; Procellaria cryptoleucura; Œstrelata hæsitata, Œ. brevipes; Colymbus arcticus.*

The final Part (XXXVI.) contains a portrait of the author, titlepages, dedication, preface, and contents of the seven volumes, together with a list of the subscribers and a general index.

69. *Malischeff on Nerve-endings in the Stomach and Œsophagus.*

[Einige Bemerkungen über die Nervenendigungen im Œsophagus und Magen der Vögel. Von N. Malischeff. Bull. Soc. Imp. Nat. Moscou, 1897, no. 2, pp. 278-289 (8 woodcuts).]

The method of investigation adopted by the author is that of Ramon y Cajal, who has studied the nervous system so successfully. Dr. Malischeff has found that in the œsophagus the nerves supplying the glandular epithelium end in fine plexuses of varicose fibres, which, however, do not apparently penetrate the gland-cells themselves. In the gizzard the nerve-fibres end in small swellings, which are closely applied to the gland-cells. In some cases there was no network of fibres to be found, but in the gizzard of *Parus major* a network occurs, which is figured and described.

70. *Naturalist's Directory.*

[The Naturalist's Directory: for the use of Students of Natural History and Collectors of Zoological, Botanical, or Geological Specimens, giving the Names and Addresses of British and Foreign Naturalists, Natural History Agents, Societies and Field Clubs, Museums, Magazines, &c. 1898. 8vo. London: L. Upcott Gill. 1898.]

This is a cheap publication (price 1*s.*), and contains many of the most obvious addresses that the working naturalist would require, although it cannot of course compete with the 'Zoologisches Adressbuch.' But the Foreign and Colonial list is far from complete, and the advertisements inserted in the middle of the text are sad blots to it.

71. *Nelson on new Birds from Tres Marias Islands.*

[Descriptions of new Birds from the Tres Marias Islands, Western Mexico. By E. W. Nelson. Proc. Biol. Soc. Washington, xii. p. 5.]

The specimens on which these descriptions are based were obtained by the author and Mr. E. A. Goldman, his assistant, during a visit to the Tres Marias group off the west coast of Mexico, in May 1897. The species and subspecies are named:—*Columba flavirostris madrensis, Leptotila* (scr. *Leptoptila*) *capitalis, Buteo borealis fumosus, Polyborus cheriway pallidus, Trogon ambiguus goldmani, Nyctidromus albicollis insularis, Myiopagis placens minimus, Cardinalis cardinalis mariæ, Vireo hypochryseus sordidus, Melanotus cærulescens longirostris,* and *Thryothorus lawrencii magdalenæ.* All these are from Maria Madre Island, except the last, which is from Magdalena. A complete account of this most interesting insular avifauna is in preparation.

72. *Neumann on the Birds of Eastern Equatorial Africa.*

[Elephant-hunting in East Equatorial Africa, being an account of three Years' Ivory-hunting under Mount Kenia and among the Ndorobo Savages of the Lorogi Mountains, including a Trip to the North End of Lake Rudolph. By Arthur H. Neumann. With numerous Illustrations by J. G. Millais, E. Caldwell, and G. E. Lodge. Coloured Plate and Map. Royal 8vo. London: Rowland Ward, 1898.]

Mr. Neumann's recently-published account of his explorations and huntings in the northern portion of British East Africa, although chiefly devoted to elephants and the larger mammals, contains several interesting notices of birds, and is well worthy of perusal. Mr. Neumann refers more than once to the occurrence of birds on Lake Rudolph, "in astonishing numbers and great variety"—"Pelicans sitting sleepily on the water and shoals, secure from crocodiles (for I watched one swim through a flock), or flying in skeins to and fro; flocks of Gulls and Terns; Storks, Herons of various kinds, Ibises, Egrets, and many other small Waders, with countless Cormorants in two sizes, besides numerous Egyptian Geese." Quite new to us is the habit of the Rosy Bee-eater (*Merops nubicus*) in perching on the back of the Bustard (*Eupodotis kori*) and capturing its insect-food thence, like a Flycatcher. Mr. Neumann has even seen two Bee-eaters sitting on one "Paauw." In the same way (see Mr. J. G. Millais's beautiful drawing, p. 293) the Egrets perch on the elephants, "the pure white plumage of the birds contrasting picturesquely with the dark bodies of their great hosts." It would appear that in "Rudolphia," as this northern part of British East Africa may well be called, the Egyptian Goose nests in trees, probably in other birds' nests, and is not unfrequently robbed of its eggs by Vultures.

73. *North on the Birds of Cumberland County, New South Wales.*

[The Birds of the County of Cumberland. By Alfred J. North, C.M.Z.S. Reprinted from 'Handbook of Sydney and the County of Cumberland.' 12mo. Melbourne, Sydney, &c.: 1898.]

Mr. North sends us a little article on the birds of the County of Cumberland, New South Wales, reprinted from the 'Handbook' of Sydney and its environs, prepared for the use of the Members of the Australasian Association for the Advancement of Science at their Meeting at Sydney in January last. It contains short notes on 261 species of birds. This is classical ground for the ornithologist, as the Australian birds described by Latham were mostly obtained during Cook's stay at Botany Bay, and the species of Vigors and Horsfield were based on specimens collected near Parramatta by Cayley.

74. *Praeger on the Birds of Rockall Island.*

[Notes on an Expedition to Rockall. By R. Lloyd Praeger, B.E. Irish Naturalist, vi. p. 309.]

This is a pleasantly-written journal of the expedition sent out by the Royal Irish Academy in charge of Mr. W. S. Green in June 1896 to visit Rockall and to endeavour to effect a landing. Numerous allusions to birds are made. The official account of the expedition has been published in the 'Transactions' of the Academy, vol. xxxi. pt. 3, 1897 (see above, p. 302).

75. *Rothschild, Hartert, and Kleinschmidt on* Comatibis eremita.

[*Comatibis eremita* (Linn.), a European Bird. By Walter Rothschild, Ernst Hartert, and O. Kleinschmidt. Novitates Zool. iv. p. 371.]

The discovery that *Ibis comata* (Dresser, B. Eur. vi. p. 329, pl. 408) was formerly an inhabitant of certain localities in Central Europe is exceedingly curious. But there seems to be no doubt that the authors have made out their case, and that this bird was really the *Corvus sylvaticus* of Gesner, upon which Linnæus based his *Upupa eremita.* In Gesner's time (1555) it nested among the rocks in Styria, Bavaria, and Switzerland, as in these days it does in Morocco, Algeria, and on the Upper Euphrates.

76. *Salvadori on a new Francolin.*

[Reliquie Ornitologiche della Spedizione Bottego. Per T. Salvadori. Ann. Mus. Civ. Stor. Nat. Genova, xxxviii. p. 652.]

Among the relics recovered of the unfortunate Bottego Expedition in East Africa were three birdskins which were sent to the Museo Civico of Genoa. One of them belongs to a new Francolin, which is described as *Francolinus bottegi.* It was obtained at Burgi among the Badditù in April 1896.

77. *Sanyal on Birds in the Alipur Zoological Gardens.*

[Note on the Breeding of various Birds (Herons and Cormorants) in a wild state in the Alipur Zoological Gardens. By Ram Brahma Sanyal. Proc. A. Soc. Bengal, 1897, p. 86.]

Ram Brahma Sanyal, C.M.Z.S., the well-known Superintendent of the Calcutta Zoological Gardens, describes the flocks of wild Paddy-birds, Night-Herons, and Pigmy Cormorants that resort to the ornamental waters of the gardens for breeding and other purposes. To these have lately been added a few Snake-birds (*Plotus melanogaster*), which it is trusted will also be induced to make their nests there.

78. *Seebohm's 'Monograph of the Thrushes.'*

[A Monograph of the Turdidæ, or Family of Thrushes. By the late Henry Seebohm. Edited and completed (after the Author's death) by R. Bowdler Sharpe, LL.D., F.L.S., &c. Part II. Imperial 4to. London: Henry Sotheran & Co., 1898.]

The second part of this beautifully-illustrated monograph (see above, p. 309) continues the account of the Geocichline group of Thrushes, and contains figures of the following species:—*Geocichla piaggiæ, G. machiki, G. peronii, G. erythronota, G. interpres, G. dohertyi, G. leucolæma, G. cyanonota, G. albigularis, G. citrina, G. innotata, G. andamanensis, G. rubecula, G. aurata, G. everetti,* and *G. monticola.*

79. *Somow on the Birds of Kharkow.*

[Faune ornithologique du gouvernement de Kharkow. Par N. Somow. Pp. i–ix, 1–680. 8vo. Kharkow, 1897.]

This is a systematic work of 680 pages octavo on the birds of the Government of Kharkow in Southern Russia. It is in Russian, with only the scientific names in Latin. We cannot, therefore, say much more of it than that 292 species are included in the avifauna.

80. *Worcester and Bourns on Philippine Ornithology.*

[Contributions to Philippine Ornithology. By Dean C. Worcester and Frank S. Bourns. Proc. U.S. Nat. Mus. xx. p. 549.]

This essay, which seems to have been written mainly by Mr. Worcester, should be studied carefully, not only by those interested in the ornithology of the Philippines, but also by all who are concerned in the subjects of Distribution and Geographical Variation, in which, as is well known, the group of islands in question furnishes an ample field of observation. The first part of it contains a list of the birds as yet ascertained to inhabit the Philippine and Palawan groups, and shows their occurrence or absence in 37 islands of the two series. The systematic arrangement adopted—we are not quite sure as to its origin—commences with the Gallinaceous birds and ends with *Pitta* ! The Philippine species number 526, besides which species that occur in the Palawan group, but have not yet been found in the Philippines, are introduced in their proper places. Upon this list, as a base, the author proceeds, in the second part of his memoir, to discuss the many and complicated questions connected with the distribution of the birds. Every island is taken in order, a list of its known species is given, and their relationships are discussed. The main conclusions ultimately arrived at seem to be somewhat as follows:—Mr. Everett's view that Palawan and its satellites belong to the Bornean and not to the Philippine group of islands is amply confirmed on evidence believed to be "incontrovertible." Turning now to the Philippine ornis proper, containing 526 species, of which not less than 323 are "apparently confined quite strictly to the group," Mr. Worcester discusses at length the five "subprovinces" into which Dr. J. B. Steere has proposed to divide the Philippine area, and shows that they are not maintainable. Nor is Mr. Worcester more satisfied with Steere's proposition that each genus is "represented by but a single species in one place." It is shown pretty clearly that this rule does not hold good. We cannot here follow Mr. Worcester into his study of the "factors in the origin and distribution" of the Philippine land-birds. They are illustrated by a map and numerous tables and diagrams. There is also given a very useful list of the titles of the principal recent authorities on the Philippine ornis.

XXXIX.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sirs,—In the third volume of the 'Revista do Museu Paulista,' which I have now in preparation, there will be an important paper by Carl Euler on the nesting of Brazilian birds. This volume will also contain my 'Catalogue of the Birds of the Province of São Paulo.' I wish to point out to you, however, that a former taxidermist of our Museum, G. Koenigswald, has lately published (J. f. Orn. 1896, p. 332) our old Museum catalogue (stated by him to have been prepared under my inspection) in his own name, without mentioning that the basis of that catalogue was the collection of this Museum. Moreover, the catalogue was at that time not at all in a fit condition to be published, containing as it did many erroneous determinations. I am now more sure of my determinations, as I have received in doubtful cases the kind aid of my friend Count Berlepsch.

You will observe that the old catalogue above referred to is that of the old Museum Collection, and is without any indications of "habitats." It includes the names of many birds of Buenos Ayres, Pará, Bahia, &c. quite foreign to the ornis of São Paulo. The catalogue now to be issued contains only species of which examples are in the new collection here, and gives authentic details as to their origin.

I have studied the question whether Natterer and Pelzeln were correct in believing the Rio Tieté to form a secondary line of division of the fauna of São Paulo, and have come to the conclusion that this is not the case. In fact we have in this province a Bolivian element in the west, and southern forms (such as *Cyanocorax cæruleus*, &c.) on the borders of Paraná. Some of the southern immigrants seem to be characteristic of our littoral—such as *Phlœocryptes melanops* and *Cyanotis azaræ*. What appears to be still more singular is the occurrence of *Spheniscus magellanicus* so far north. Of this Penguin, first found by me at Rio Grande, we have recently received a specimen from Santos, and I have heard of another at the island of São Sebastião, which I hope to obtain also.

Yours &c.,
H. Jhering.

Museu Paulista, São Paulo,
April 18th, 1898.

Sirs,—I am able to record for the first time the occurrence of *Pratincola maura* in this island. A specimen of this bird was shot by a Chinaman in the neighbourhood of the town of Kuching in January last, and Mr. A. Everett has very kindly identified it for me. I think that I may safely trust in the judgment of so experienced an ornithologist.

Yours, &c.,

Robert Shelford,

Curator of the Sarawak Museum.

Sarawak Museum, Borneo,
April 5th, 1898.

Sirs,—In your notice of Mrs. H. Blackburn's 'Birds from Moidart and elsewhere,' in 'The Ibis' for 1896, p. 266, you appear to wish for information as to the colour of the irides in the young Carrion-Crow.

I can say nothing of this species, but I have had many opportunities of seeing that in the young of the Indian House-Crow (*Corvus splendens*) the irides are *blue,* as is stated by the lady above mentioned to be the case in the young of the Grey-backed Crow. This colour remains till after the birds are fledged. I have also noted that in a fledged young Jungle-Crow (*Corvus culminatus*) the irides were dark grey. The interior of the mouth of this bird was pale fleshy; and in young *C. splendens* it is pinky red, becoming black in the adult of this species.

I remember once observing a red-mouthed Raven in the London Zoological Gardens, and should much like to know whether it is the usual thing for the Corvidæ (or *Corvus* at all events) to change the colour of the inside of the mouth with the advent of maturity, as our House-Crow does.

Yours, &c.,

Frank Finn.

India Museum, Calcutta,
May 5th, 1898.

Sirs,—Mr. H. J. Pearson, in his interesting paper on birds observed on Waigats &c., in the last number of 'The Ibis,' writes as follows:—"*Motacilla alba.* A male was shot at Habarova. Messrs. Harvie-Brown and Seebohm did not meet with this bird north of lat. 68°, and, Habarova being in 69° 40′, the above forms a considerable extension of the range of the bird in Europe." Also, "*Falco æsalon.* A Merlin was seen near Habarova on July 17th, but unfortunately we were unable to secure it. The remarks on the extension of range of the White Wagtail apply to this species also, for it has previously been recorded only by Messrs. Harvie-Brown and Seebohm in lat. 68°."

In 'The Ibis' for January 1897 (pp. 94 & 99) I have recorded both the White Wagtail and Merlin at Khabarova.

My object in writing is not to deprive Mr. Pearson of the credit of having extended the range of these birds in Europe (in Siberia they extend to nearly 72° N.), but rather to confirm his observations—especially in the case of the Merlin, for I secured a specimen of it.

To make Mr. Pearson's list of the birds of Waigats more complete, *Dafila acuta* and *Strepsilas interpres* can be given; and, having passed some six weeks at Khabarova, I can add the names of *Charadrius pluvialis, Calidris arenaria, Phalaropus hyperboreus, Falco peregrinus, Cygnus bewicki,* and *Pagophila eburnea* to his list of birds at Khabarova.

Yours &c.,

H. L. Popham.

Templeton, Hungerford,
May 30th, 1898.

Sirs,—One of the rarest birds existing is that described and figured by Temminck in his 'Planches Coloriées' (No. 337) under the name *Glaucopis temnura.* The type of this species, a unicum in the Paris Museum, was obtained in Cochin China by Diard. Up to the present day this bird has not been recognized anywhere else. Now, in 'The Ibis' of 1893 (p. 55) Mr. F. W. Styan, the well-known writer on the birds of China, has published a short description of a new bird from Hainan, which he has called *Crypsirhina nigra* (*Temnurus niger,* op. cit. p. 431). The type specimen of this description, also a most interesting unicum, was in the rich zoological collection of my late countryman Mr. B.

Schmacker, since whose death it has become the property of the Bremen Museum. On comparing this specimen, a very fine adult male, with the figure in the Pl. Col. 337, there cannot be *the slightest* doubt of their identity, the Hainan bird corresponding in every respect with the figure of that of Cochin China. A comparison of the two specimens themselves is not necessary (*cf.* Sharpe, Ibis, 1893, p. 222). The original label bears the inscription "*Labowan, interior of Hainan: iris magenta.*"

In the ornithological system this bird should therefore stand as *Temnurus truncatus* (Less.).

I am, Sirs,
Yours &c.,
G. Hartlaub.

P.S.—It will also, perhaps, interest you to hear that the type specimen of *Arboricola ardens* (figured in 'The Ibis,' 1893, pl. xii.) is also now in the Bremen Museum.

The Ibis Glacier.—Our brethren of the B.O.U. will surely be pleased to learn that one of the finest glaciers on the east coast of Novaya Zemlya has been named after this Journal. Col. Feilden, in his most interesting account of his visit to Barents and Kara Seas, lately published (Geogr. Journ. xi. p. 334), writes as follows:—

"The next day we proceeded up the fiord that runs into the interior directly opposite Pachtussoff Island [*cf.* Pearson, Ibis, 1898, p. 190]. We steamed up this noble indentation for a distance of about 12 miles, until we got within a quarter of a mile of the glacier at its end; we sounded there, and found 40 fathoms. The sea-ice had entirely cleared out of the fiord, but over its blue surface were scattered huge blocks of glacier-ice, and bergs of considerable size were stranded at many points. Mr. Pearson and Mr. Curtis, on landing, ascended the glacier from its flank and travelled a long way over it, reaching an elevation of 650 feet. Down its centre is a medial moraine in which occur perfectly rounded water-worn stones. In company with one of the crew, Daniel Johannssen, who generally attended me in my walks, we ascended one of the hills that bordered the south side of the glacier. We found it a somewhat arduous climb, which took us over two hours to accomplish. We reached the summit at midnight; the temperature was 40°, and we threw ourselves, our clothes saturated with perspiration, on the ground. I had forgotten my aneroid. Daniel estimated the height at 2000 feet. I think 1400 feet would be within the mark. Phanerogamic vegetation entirely ceased at 400 feet from the top, and was replaced by a rich growth of lichens and mosses. *Cardamine bellidifolia* was the highest-growing flowering-plant. We were well repaid for our climb, as we looked upon a scene of rare beauty. Immediately below us lay the glacier, some 3 miles across, but narrowing to about a mile where it discharges. Looking inland, the glacier seemed smooth, but at the contracted outlet it was greatly crevassed transversely.

"As this grand fiord is unnamed on the charts, and we were the first to explore it, we desire to give to it the name of Ziwolka, in remembrance of Pachtussoff's able lieutenant; and to name the glacier the 'Ibis Glacier,' in compliment to our brethren of the British Ornithologists' Union."

News from Ornithologists in Foreign Lands.—Mr. Stanley Flower, of the Royal Museum, Bangkok, whose interesting notes on the birds of Bangkok are given above (p. 319), has been visiting Singapore and Penang, and finds the change from the flat plains of Siam to "The Crag" on Penang Hill, 2260 feet above the sea-level, very refreshing. Here he sees and hears the great Rhinoceros Hornbill (*Dichoceros bicornis*) daily, besides many other birds of great interest.

Mr. Wiglesworth is leaving Dresden, where he has been working with Dr. Meyer for several years, and will soon return to England. The joint work of these two authors on the Birds of Celebes and the adjacent Islets is finished, and will be issued very shortly.

Mr. J. D. D. La Touche writes to us from Swatow (Feb. 10th, 1898) as follows:—"I have to tell you that my long-projected collecting trip to N.W. Fohkien will now, I hope, take place. I shall not be alone, as I am to be married shortly, and my wife will accompany me. Our plans are to start at the beginning of March, so as to reach Kuatun as early as possible in April. We shall return here towards the end of May, and leave for Europe in June."

Mr. Boyd Alexander has left England for South Africa as one of the nine members of Major Gibbons's "Cape to Cairo" expedition, and will look after the birds and mammals. He will have a native collector to help him. The party will land at Chindé and proceed up the Zambesi, in two launches and a barge (made of aluminium) which are taken out with them, and will pass the rapids above Teté and elsewhere by portage. They will then go overland to the line of the African Lakes, and hope to arrive in Uganda about April next year. If, as is expected, Khartoum is taken this autumn, they anticipate an easy passage down the Nile to Cairo.

Our excellent correspondent Dr. E. A. Goeldi returned to his work at Pará in April last after seven months' absence. Dr. Goeldi, during his excursion up the Rio Capim last year, caught a sharp attack of malarious fever, and went to the hills at the back of Rio for change of air, intending to return home in January. This, however, was prevented by a relapse, which drove him again up to the Organ Mountains. Here, we may be sure, he was not idle. We are pleased to be able to say that Dr. Goeldi is now in much better health. He has sent Mr. Sclater a skin of *Psophia obscura* (quite distinct from *Ps. viridis*), which we hope to be able to figure in the next 'Ibis,' and a living specimen of a rare Curassow (*Crax pinima*), both from the Rio Capim.

List of Illustrated Ornithological Works in course of publication, and the Dates of the last Parts issued.

British Birds, their Nests and Eggs. By various well-known Authors. Illustrated by F. W. Frohawk. Part LXXXVIII. (1898.)

Giglioli (E. H.) and Manzella (A.). Iconografia dell' Avifauna Italica. Fasc. 53. (1895.)

Lee (O. A. J.). Among British Birds in their Nesting-Haunts. Part XI. (1898.)

Menzbier (M. A.). Dr. N. A. Severtzow. Ornithologie des Turkestan. Livr. 4. (1894.)

Meyer (A. B.). Abbildungen von Vogel-Skeletten. Lief. XXIV. (1898.)

Naumann's Naturgeschichte der Vögel Deutschlands. Lief. XXVI. (1898.)

Rothschild (Hon. Walter). The Avifauna of Laysan. Part II. (November, 1893.)

Russ (K.). Fremdländische Stubenvögel. Band II. Lief. 19. (1898.)

Saunders (H.). Illustrated Manual of British Birds. Second edition. Part 8. (June, 1898.)

Seebohm (H.) and Sharpe (R. B.). A Monograph of the *Turdidæ*. Part II. (1898.)

Sharpe (R. B.). Monograph of the *Paradiseidæ*, or Birds of Paradise. Part 7. (1897.)

Wilson (Scott B.) and Evans (A. H.). Aves Hawaiienses. The Birds of the Sandwich Islands. Part VI. (July, 1896.)

XL.—*Obituary.*

Dr. A. J. Malmgren, Senhor José d'Anchieta, *and* Mr. O. Salvin.

Dr. Anders Johan Malmgren, one of the 20 Foreign Members of the B.O.U., of whose death at Helsingfors, on April 12th, 1897, we have only lately received intelligence, was born in Finland in 1834. In 1869 he became Professor of Zoology at the University of Helsingfors, and in 1874 was made Commissioner of Fisheries. In 1889 he was appointed Governor of the northernmost province of Finland, and took up his residence in Uleåborg. As a zoologist Malmgren paid special attention to the fauna of Northern Europe, and made many valuable contributions to our knowledge of the mammals, birds, fishes, and annulata of the Arctic Seas and their islands. To ornithologists he is best known from his explorations in Spitsbergen, to which he paid three visits. The results of these expeditions as regards birds were published in the 'Transactions' of the Royal Swedish Academy of Sciences for 1863, and subsequently in the 'Journal für Ornithologie' for the same year. A letter from the deceased naturalist in reference to some European birds met with at the Cape will be found in 'The Ibis' for 1869, p. 229.

José d'Anchieta.—One of the most energetic and experienced collectors of modern days has disappeared in the person of José d'Anchieta, who for many years has supplied the Museum of Lisbon with specimens of natural history from the Portuguese West-African provinces of Mossamedes, Benguela, and Loanda. As we learn from Prof. Bocage's memoir (Jorn. Sc. Math. Phys. e Nat. Lisb. vol. xviii.), Anchieta died at Caconda in Benguela on the 14th of Sept., 1897. More than 4000 bird-skins have been sent to the Lisbon Museum by this hard-working collector, and have formed the subjects of numerous memoirs by Prof. Bocage and Senhor J. A. de Sousa, which have been quoted in this Journal. They have been referred to 560 species, among which 46 have been described as new. At least five of these species—*Bocagia anchietæ* (Bocage), *Chætura anchietæ* de Sousa, *Nectarinia anchietæ* Bocage, *Scoptelus anchietæ* Bocage, and *Stactolæma anchietæ* (Bocage)—serve to commemorate the name of this much-deserving naturalist.

Osbert Salvin, F.R.S.—With much grief we also have to announce the loss of our friend and fellow-worker, Mr. Osbert Salvin, F.R.S., one of the original members of this Union, and, at the time of his death, its Secretary. Mr. Salvin died at his residence, Hawksfold, in Sussex, on the 1st June. We hope to be able to give some account of his life and work in our next number.

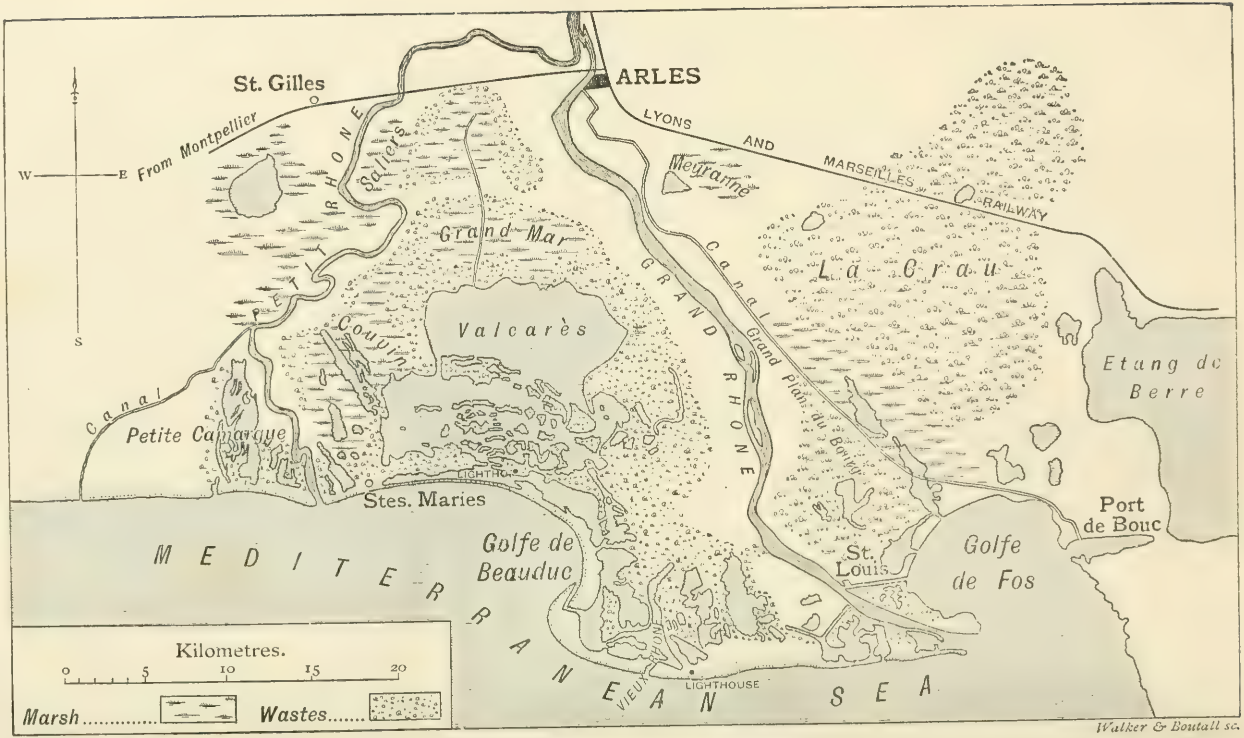
THE IBIS.

SEVENTH SERIES.

No. XVI. OCTOBER 1898.

XLI.—*On the Ornithology of the Delta of the Rhone.* By Wm. Eagle Clarke, F.L.S. (Second Contribution.)

During a visit to the Delta of the Rhone in May and the early part of June 1894 (*cf.* Ibis, 1895, pp. 173–211), Mr. T. G. Laidlaw and I were much impressed with the number of birds of passage—most of them of species breeding in the high north—which, in spite of the lateness of the season, lingered on the margins of the lagoons and étangs bordering the Mediterranean. This evidence of migratory movements of considerable importance and interest, as well as the fact that the Rhone Valley is recognized to be a much-traversed route, suggested to us the desirableness of an autumn visit for the purpose of witnessing the phenomenon of migration at a season more favourable for its observation. With this end in view we spent some weeks in September 1896 in making observations in the vast areas of waste and lagoon, marsh and étang of the Camargue, on the margin of the two Rhones, and on the shores of the Mediterranean—which latter form the base of the Delta. During these investigations, we not only obtained much information bearing upon the main object of our visit, but we also added considerably to our former personal knowledge of the avifauna of the region, and made some further notes on a few of the more interesting species which haunt these singular solitudes.


St. Gilles
ARLES
From Montpellier
LYONS AND MARSEILLES RAILWAY
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PETIT RHONE
Salliers
Grand Mar
Meyranne
La Crau
Canal Grand Plan du Bourg
GRAND RHONE
Couvin
Valcarès
Etang de Berre
Canal
Petite Camargue
LIGHTHO
Stes. Maries
Port de Bouc
Golfe de Beauduc
St. Louis
Golfe de Fos
MEDITERRANEAN SEA
VIEUX RHONE
LIGHTHOUSE
Kilometres.
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10
15
20
Marsh..............
Wastes.......

W. Eagle Clarke del.

Walker & Boutall sc.

MAP OF THE DELTA OF THE RHONE.

The results obtained regarding the migratory movements were highly satisfactory. Even during our brief sojourn, a considerable number of species, and hosts of individuals, of birds which summer and nest in Northern and Central Europe were observed traversing the Lower Rhone Valley as birds of passage, most of them to rest on the shores of the Mediterranean, before passing still further south to their accustomed winter-quarters. Among others were the Firecrest, Starling, Goshawk, Osprey, Pintail, Teal, Wigeon, Stock-Dove, Great Snipe, Common Sandpiper, Green Sandpiper, Wood-Sandpiper, Spotted Redshank, Greenshank, and Black-tailed Godwit.

In addition to the boreal and infra-boreal birds just enumerated, a number of species which nest in Northern and Central France and elsewhere, but which are not summer visitants to the Bouches-du-Rhône, were noted passing southward as emigrants in the Delta and its neighbourhood. These were the Wheatear, Whinchat, Redstart, Willow-Warbler, Pied Flycatcher, Spotted Flycatcher, Nightjar, Sparrow-Hawk, Common Heron, Shoveler, Land-Rail, and Curlew.

In addition, again, to the strictly transient visitors above mentioned, the ranks of a number of species which are summer birds in Provence, including the Delta and district, were largely recruited by migrants from more northern provinces and countries, and these, along with the summer visitors of the same species to the Bouches-du-Rhône, joined forces in the general movement southward. The Whitethroat, Blue-headed Wagtail, Swallow, Martin, Sand-Martin, Wryneck, Hobby, Kestrel, Mallard, Garganey, Quail, and Redshank may be mentioned, among others, as of this group.

The tamarisk-bushes, which flourish in the arid saline region of the southern portion of the Camargue and which are eminently birdless during the summer months, were now alive with Redstarts, Warblers, and other Passerines; and it was here that we made most of our observations on the movements of the birds of this order. In this desert-region, too, we saw the Hobby, Kestrel, and Sparrow-Hawk as emigrants, and in the étangs were Ospreys and numerous Ducks and Waders. Owing to an unusually droughty season, the lagoons of the Camargue had become much reduced in area, and saline to an extreme degree. The consequence was that migratory Waders did not frequent their shores, as they did in May 1894, but selected the margins of the freshwater étangs, on which they were very numerous.

Certain species of the Limicolæ—the Knot, Grey Plover, and others—do not arrive in the Delta until late in the season; not indeed until the approach of winter cold drives them thus far south, and this accounts for the absence of several species from our notes. There can be no doubt that numerous other species, the Thrush and Redbreast for instance, not seen by us in September, appear on passage, or as winter visitors, or as both, during October, and even later.

Some of the summer visitors to the Delta and its vicinity had taken their departure prior to mid-September. Thus, on our arrival at Arles on the 14th of that month, we at once missed the Swifts, which during the summer are so surprisingly abundant, on account, no doubt, of the multiplicity and congeniality of the nesting-haunts afforded by the ancient Roman buildings for which that old-world town is famous. The Swift is well known as an early emigrant, so that its entire departure from the shores of the Mediterranean by the date named is not altogether surprising.

This, however, was not the only bird of summer that we missed in our peregrinations in the Camargue. The Hoopoe, which we saw daily in May 1894, and which was certainly the commonest species that then came under our notice, had also emigrated. Another conspicuous and everyday bird during our former visit, namely the Lesser Grey Shrike, had likewise departed, and not one did we see, though insect-life was astonishingly abundant. Again, the Black-throated Wheatear and the Great Reed-Warbler were not observed, and had presumably, deserted their summer-haunts. On the other hand, several species which are winter visitors to the Midi—such as the Starling, Firecrest, Stock-Dove, Wigeon, Shoveler, Pintail, Teal, &c.—had already arrived in the Delta.

During our sojourn we observed examples of a number of species which had not come under our notice in the spring of 1894. These additions to our former list are most of them seasonal visitors, and will be particularized in the systematic portion of this contribution by being marked with an asterisk. It is almost needless to remark that a number of the birds mentioned in the former paper again came under observation; but, since nothing new is required to be said concerning them, they have been omitted from further consideration here.

It may not form an unfitting conclusion to this portion of my contribution to allude to the great changes that have been wrought, and those that are in active progress, in the Camargue. Once the entire surface of the vast triangular Delta—some 400 square miles in area—was entirely in a virgin condition, and then marsh and étang flourished in the north of this wild region, while in the south vast areas of desert and lagoon extended to the Mediterranean. In those palmy days, from an ornithologist's point of view, the Camargue was undoubtedly one of the greatest metropolises of aquatic bird-life in Europe. The reclaimer, however, has long ago transformed much of its northern fastnesses, and now vineyards and cornfields are to be found in their stead. Great marshes, it is true, still remain there, but they have been deprived of much of their seclusion, while an elaborate system of drainage is gradually sapping their luxuriance. There are still in places, nevertheless, perfect forests of reeds, but these are now chiefly tenanted in the summer by aquatic Warblers, and their margins during the periods of migration afford feeding-grounds for certain Waders, but are otherwise unimportant as bird-resorts, though they once, it is said, harboured among others the Sea-Eagle and the beautiful "Poule sultane" (*Porphyrio cæruleus*) as breeding species.

The most interesting étangs and marshes are now to be found in the south-west. Here some extensive étangs are very attractive to the Anatidæ, not only during the seasons of passage, but they also afford breeding-haunts for such interesting species as the Red-crested Pochard and possibly the Pintail. There are reed-beds and marshy tracts fringing these étangs which are tenanted by a number of interesting birds, such as the Bearded Reedling, Great Sedge-Warbler, Marsh-Harrier, Purple Heron, and the Coot, the last being quite a rare bird in the Midi. These étangs and marshes, however, are a mere remnant, both as regards their extent and their bird-life.

The southern region is entirely impregnated with salt, and consists of wastes clothed with salt-loving herbage, and shallow lagoons of remarkably saline water. This vast area of desert—it is nothing else—has baffled reclamation by the agriculturist for these very reasons. Yet its singular adaptation for the production of salt now threatens with destruction its most characteristic bird, the Flamingo, a species that has many charms for the naturalist. To the south-east of the Delta there flourishes an extensive Saline; and now, in addition, there have been erected very extensive premises for the extraction of the valuable iodides and bromides from the raw salt so abundantly produced. These combined industries give employment to some 2000 hands, and are close to one of the colonies of Flamingoes that pass the summer in the Camargue. It is not at all likely that these birds can flourish long with such a human population as their immediate neighbours.

On the other hand, in the south-west, where the second herd of Flamingoes have their head-quarters, on the Great Étang de Valcarès, the march of cultivation has already reached its northern shore. But this is not all. A singular character, one Marius, a barber visiting Arles to shave the country-folk on Sundays, and a recluse dwelling in a lonely cabane on the east side of this étang during the remainder of the week, takes a heavy toll of the eggs, which are laid within sight of his retreat.

Encroachments and persecutions such as these must soon work changes on this, the most remarkable, and at the same time one of the most restricted as regards its range, of European birds. That they are doomed in this, their only retreat in France, is certain, for on neither visit did we observe young birds—not even in September 1896—though we saw scores of nests which had evidently been built that season. The Flamingo, however, is a mere survival of the former ornithological glory of the Camargue. Even this relic must soon for ever pass away, though the lagoons and wastes will remain for long years to come as mementoes of this ancient metropolis of bird-life, and of the remarkable bird which was once its chief ornament.

Frequent reference will be made in the succeeding portion of this contribution to the statements of Jaubert and Barthélemy-Lapommeraye, and contained in their useful work entitled 'Les Richesses ornithologiques du Midi de la France' (1859–61).

TURDUS VISCIVORUS.

We again saw the Mistle-Thrush, in some numbers, in the northern portion of the Camargue and in the neighbourhood of Arles, and it is undoubtedly a breeding species. This bird is mentioned here for the purpose of quoting a statement made in 'Les Richesses' (p. 204) that many nest in the Departments of Var and Basses-Alpes (*i. e.* in the highlands of Provence), which implies that it does not breed in the low country of the Bouches-du-Rhône.

SAXICOLA ŒNANTHE.

The Wheatear was extraordinarily abundant on passage, and was observed throughout the Camargue during the latter half of September, and probably throughout that month. It was an object of much attention from the sportsmen of Arles, to whom the "cul-blanc" seemed to be a favourite "game-bird," and many hundreds were shot to our knowledge in September 1896. This species is a bird of double passage in the Midi.

*RUTICILLA PHŒNICURUS.

The Redstart is a bird of passage only in the South of

France, and was observed by us in great numbers throughout the Delta, especially among the tamarisk-scrub in the arid region adjoining the Mediterranean. The movement of this species southwards appeared to be at its height during the latter half of September. As this bird is strictly a transient visitor in the Midi, it did not come under our notice in May and June 1894.

PRATINCOLA RUBETRA.

A few Whinchats were seen in the southern portion of the Camargue. It is probably only a bird of passage in the Bouches-du-Rhône, though Jaubert and Barthélemy-Lapommeraye (p. 225) state that a small number stop to nest in the Midi.

SYLVIA CURRUCA.

The Lesser Whitethroat was common enough among the tamarisk-shrubs in the arid region of the Camargue bordering the Mediterranean, where several were shot for identification. Nevertheless, in 'Les Richesses' (p. 243) it is said that the bird is not common in Provence either in summer or on migration.

SYLVIA CINEREA.

The Whitethroat was observed on passage in great abundance among the tamarisks in the south of the Delta.

SYLVIA ATRICAPILLA.

The Blackcap, another common summer bird in the region, was observed in much recruited numbers as an emigrant.

PHYLLOSCOPUS TROCHILUS.

The Willow-Warbler is a bird of passage only in the Bouches-du-Rhône. It was one of the very commonest migrants that came under notice, and was seen everywhere in the Delta, especially among the tamarisks near the Mediterranean, in which this bird literally swarmed during the period of our visit. In 'Les Richesses' (p. 267) it is considered doubtful if this species nests in Provence. A certain number, however, remain during the winter.

ACROCEPHALUS TURDOIDES.

We did not observe the Great Reed-Warbler, a bird which was so much in evidence and also so abundant at the time of our previous visit. It may, however, have escaped our notice, for Jaubert and Barthélemy-Lapommeraye (p. 259) say that it is resident in the Camargue.

The Reed-Warbler (*Acrocephalus streperus*) was quite abundant throughout our visit.

CETTIA CETTII.

In my former remarks on Cetti's Warbler, doubt was expressed as to whether the remarkable notes of this bird were to be regarded as a song or an alarm-cry, and an opinion was expressed in favour of the latter view. The observations made in the autumn all tended to confirm this impression. At that season other birds are usually silent: not so *C. cettii*, for on each occasion on which we approached its haunts—dense covert by the waterside—there was the same outburst of the identical notes which had impressed us so much in the spring. The authors of 'Les Richesses' (p. 25) say that its voice, well known to those who frequent the marshes, is short, but powerful and sonorous, and that the male utters it all the year round. Possibly it may be the song of an exceptionally timid species, and is uttered on occasions of excitement—such as intrusion upon its haunts—at all seasons, and is thus a combination, as it were, of an alarm-cry and a song.

*REGULUS IGNICAPILLUS.

We saw only a single example of the Fire-crested Wren, a remarkably confiding male, which allowed himself to be inspected at close quarters. This bird was observed in a dense willow-break, on the banks of the Grand Rhône, on the 17th of September. According to the authors of 'Les Richesses' (p. 192), this bird is an autumn and winter visitant to the Midi.

*ACREDULA CAUDATA.

Several Long-tailed Tits, probably a family-party, were seen among the trees fringing the west bank of the Grand Rhône on the 17th of September. We did not observe this bird in the spring of 1894, and it is probably not common as a resident species in the Bouches-du-Rhône. Jaubert and Barthélemy-Lapommeraye say (p. 187) concerning it in Provence, that it is to be found commonly in the Basses-Alpes and that portion of the Var which is distant from the coast; in other words, in the elevated districts of Provence.

*PARUS CÆRULEUS.

The Blue Tit is another uncommon species in the low-lying country of the Delta and its neighbourhood, and is also an addition to our former list of birds observed in the region. We only saw it once, and then among the trees of the northern and cultivated district of the Camargue. Like the last-named species, Jaubert and Barthélemy-Lapommeraye (p. 182) only mention it for the highlands of the Basses-Alpes and the Var.

ÆGITHALUS PENDULINUS.

The Penduline Tit proved to be a very common species among the trees on the banks of the canals on the eastern fringe of the Delta, where we found it nesting in 1894. In the autumn of 1896, these birds were to be seen in family-parties of some eight individuals, and were busily searching for insect-food among the umbelliferous herbage that flourished on the canal-banks. The species is much more abundant here than we before supposed it to be; indeed it is quite common, though local, and we never visited its haunts without seeing many examples. Jaubert and Barthélemy-Lapommeraye considered it to be rare in Provence.

ANTHUS CAMPESTRIS.

We found the Tawny Pipit not uncommon in May and early June 1894, in the southern arid portion of the Camargue, and regarded it as a summer visitor to the Delta. In the autumn of 1896, we only observed a single individual in that region. This species is mentioned here chiefly for the purpose of quoting Jaubert and Barthélemy-Lapommeraye's views, which are opposed to our experience of the bird in the Camargue. These authors state (p. 287) that this species occurs on passage in Provence in April and September, and that it is common in summer in the Hérault, Var, and Basses-Alpes. To these Departments should be added the Bouches-du-Rhône.

ORIOLUS GALBULA.

A solitary female Golden Oriole was observed among the trees in the north-east of the Camargue on the 20th of September. We saw only a single male in May 1894. Jaubert and Barthélemy-Lapommeraye say that the Oriole is a common bird in Provence at the periods of migration, and that it breeds in nearly all the southern Departments.

LANIUS POMERANUS.

The Woodchat was the only Shrike seen during this autumnal visit. It was not uncommon, and was usually engaged in the pursuit of a Mantis and a large species of green grasshopper, which were both very abundant at the end of September.

Jaubert and Barthélemy-Lapommeraye state (p. 175) that *Lanius meridionalis* is a resident, and remains during great cold, and that it is principally to be found in the Crau and the Camargue. We did not observe the Southern Grey Shrike on either of our visits, and during the autumn of 1896 we did not see a "Grey" Shrike of any species: not even *Lanius minor*, which was so excessively common in May and June 1894.

*MUSCICAPA ATRICAPILLA.

The Pied Flycatcher is a bird of passage only in the Bouches-du-Rhône, and was one of the commonest passerine migrants that came under notice in September 1896. It was observed in large numbers among trees and bushes, including the tamarisks of the desert-region bordering the Mediterranean. It is worthy of note that all the very numerous examples seen were, without exception, in the plumage of the female. Doubtless many adult males were among them, but all had assumed their winter plumage prior to mid-September.

MUSCICAPA GRISOLA.

The Spotted Flycatcher is a bird of passage in the Delta and its neighbourhood, and was fairly common throughout the latter half of September in all parts of the Camargue and in the vicinity of Arles. Jaubert and Barthélemy-Lapommeraye (p. 195) say that it nests rarely in the South of France.

HIRUNDO RUSTICA.

The Swallow was abundant during our visit, and its numbers did not appear to have at all decreased by the beginning of October.

On September 15th we witnessed a considerable migratory movement, from the north, of Swallows and Sand-Martins. Just before sunset, as we stood on the high bank of the Petit Rhône, at the northern extremity of the Camargue, a great number of Swallows appeared, in continuous parties of about 100 individuals, all passing due south for the Mediterranean. This passage lasted for some three-quarters of an hour, and the birds flew at so low an elevation as to pass just above our heads, enabling us to distinguish readily that these troops of emigrants were composed of both old and young birds. During this movement the local Swallows were busily engaged in the pursuit of their insect-food over the waters of the Rhone, and appeared to be quite indifferent to what was taking place just above them.

*STURNUS VULGARIS.

The Starling is a winter visitor in the south of France. We first observed it in some numbers near to Arles on the 24th of September, after which date we saw it quite commonly. Jaubert and Barthélemy-Lapommeraye state (p. 106) that it arrives in the Midi in numerous flocks during the first days of October.

CORVUS CORONE.

During a short stay at Les Saintes Maries, the Carrion-Crow was again observed to make daily visits to the village in search of offal. This species is undoubtedly a resident in some numbers in the southern portion of the Petite Camargue.

*CAPRIMULGUS EUROPÆUS.

Several Nightjars were shot on passage in the Camargue during the latter part of September. It was evidently esteemed as a minor "game-bird" by the local sportsmen.

IYNX TORQUILLA.

We observed the Wryneck as a common bird of passage throughout our visit. It frequented and skulked in thick bushes by the side of the Rhone, and the wooded margins of the canals.

GECINUS VIRIDIS.

The Green Woodpecker proved to be quite a common bird among the trees fringing the canals near Arles. We saw this species only on one occasion during our spring visit.

CUCULUS CANORUS.

Two adult Cuckoos were observed on the eastern border of the Camargue on the 16th of September, and were the only birds of this species seen.

*STRIX FLAMMEA.

One, seen at Villeneuve, in the Camargue, on September 19th, was the only Barn-Owl that came under our notice. This bird was observed in broad daylight on the top of a corn-stack, where it appeared to be busily engaged in the capture of prey.

*ATHENE NOCTUA.

A Little Owl was observed, on the evening of the 23rd of September, perched on a post at Balarin de Roure, in the Eastern Camargue. It seemed to be fearless, and allowed a close approach.

*ASTUR PALUMBARIUS.

A Goshawk was well seen on September 18th near the bank of the Petit Rhône, in the north of the Delta. Jaubert and Barthélemy-Lapommeraye say (p. 64) that this species is rare on passage, but that young individuals are killed at the time of the passage of flocks of Pigeons.

*ACCIPITER NISUS.

The Sparrow-Hawk did not come under our notice in the spring of 1894, but it was not uncommon as a bird of passage in September 1896, and chiefly in the vicinity of the trees that fringe the Rhônes and the canals. There was a marked passage of birds of prey of several species towards the close of the month of September.

FALCO SUBBUTEO.

The Hobby was common on passage, and was observed in all districts of the Delta down to the shore of the Mediterranean.

FALCO TINNUNCULUS.

The Kestrel was also abundant as a migrating species, and several were frequently seen on the wing simultaneously.

PANDION HALIAËTUS.

The Osprey was observed in numbers, especially on the étangs and in their neighbourhood. On September 19th, at the Étang de Giraud, four were seen together on the wing. On the 23rd of the same month one formed a conspicuous object, as it rested on the mud close to the water's edge on the Étang Consécanière. This bird subsequently took wing, and, after sailing over the étang for a few moments, pounced down upon and captured a large cyprinoid fish in water that was not more than a foot deep.

ARDEA CINEREA.

The Heron is both a winter visitor and a bird of passage in the Bouches-du-Rhône, and was abundant during the period covered by our visit. Only a single example was seen by us in May 1894.

Jaubert and Barthélemy-Lapommeraye say (p. 358) that the Heron was at one time resident in the Midi, but that since the clearing of a part of the Camargue it has been little more than a bird of passage.

ARDEA PURPUREA.

The Purple Heron was not nearly so common in the autumn as it was in the spring. At the latter season it was abundant, and was probably nesting.

*Ciconia alba.

On the 23rd of September we found, near the margin of the Étang Consécanière, the remains of a White Stork in a fair state of preservation. Jaubert and Barthélemy-Lapommeraye state (p. 354) that this bird is always rare in Provence.

Phœnicopterus roseus.

During this second visit to the Camargue we obtained some additional information of interest regarding the Flamingo. This has led us to modify our estimate regarding the number of these birds summering in the Delta.

On the 19th of September we visited, for the first time, the series of lagoons at Giraud, and which lie in the south-east of the Delta. Here we found a colony of some 500 or 600 Flamingoes, and doubtless many more were in other suitable localities there which we were unable to reach. We had not expected to find a herd of these birds at Giraud, since there is an extensive "salt-pan," and hence a considerable population—a disturbing element to bird-life. It was the discovery of this herd that led us to modify our estimate of the Flamingo population of the Camargue, and we now regard it as ranging from 1000 to 1500 individuals.

It is much to be feared that the great increase in the population in the Giraud district, already alluded to, will entirely prevent these birds from incubating. The peasants, French and Italian, employed at the salt-pan are extremely poor, as is evidenced by the mean reed-huts in which they dwell with their families; and there can be no doubt that the eggs are much sought after and consumed largely for domestic purposes.

On the 20th of September we visited the east shore of the Étang Valcarès. Here we found these birds very numerous, some 600 or 700 of them being in view. They were feeding in thin lines, which extended, with few breaks, for several miles. On this same shore, and about 50 yards from the edge of the water, then much shrunk owing to a prolonged spell of drought, were nearly 100 nests, still so fresh that they could have been formed only a few months before. These were arranged in groups of about 20 nests, placed close together, and the groups were about ten yards from each other. The structures had the appearance, when seen from a short distance, of hillocks. Some of them were quite a foot in height, but the majority were about 9 inches, and each was some 12 inches in diameter. Near by were the remains, or rather signs, of numerous nests of a previous year, now simply represented by mounds of mud. Here we had evidently one of the chosen breeding-grounds of the Valcarès Flamingoes, but unfortunately the site selected was within view of the lonely cabane of that singular individual Marius, already mentioned, and by whom their nests had been robbed, no doubt, to their last egg.

That more than very few—indeed that any—young Flamingoes are reared annually in the Camargue is extremely doubtful. We saw and carefully examined at least a thousand of these birds during this September visit, but not a single young or immature bird was to be detected in their ranks. This in itself was melancholy evidence of the fate which awaits these birds in the Bouches-du-Rhône. In September we found these birds more widely distributed than they were during the breeding-season, and we observed them on the waters of Consécanière, an étang on which we did not observe a single bird during the spring of 1894.

Regarding the food of the Flamingo in the Camargue, there can be no doubt as to the correctness of the views expressed on this subject in my former contribution. The conclusions arrived at were based upon observations during the breeding-season, when the birds were entirely confined to the lagoons. In these shallow lakes not a vestige of vegetation was to be found, and the animal life of their extremely saline waters consisted only of myriads of the brine-shrimp (*Artemia salina*); it is undoubtedly upon this little crustacean that the Flamingo feeds in the lagoons of the Camargue.

The legs of this bird appear to undergo a seasonal change in colour. In May and June we noted them as being reddish-pink, but in September the legs of all were a livid magenta-pink.

We have no particulars regarding the departure or arrival of the Flamingoes in the Delta. Mr. William Berry, however, observed them on Valcarès on the 5th of April, 1898.

ANAS BOSCAS.

The Mallard was extremely abundant on the Étangs, and have evidently received immense additions from the north. On the 23rd of September several thousands were observed, along with a vast horde of other Ducks of various species, on the Étang Consécanière. All the drakes were in brilliant full plumage; but it may be remarked that this was not the case with the males of some of the other species which were present.

*SPATULA CLYPEATA.

There were quite a thousand Shovelers on the Étang Consécanière on the 23rd of September. When first seen they were in a pack by themselves, resting in the shallow water; when on the wing, however, they associated with the other species. We had an excellent view of them as they rested in water about an inch deep, and were able to note that not a single drake was in full plumage, but were all much dappled in appearance. This species is a winter visitor to the Delta, and also a bird of passage.

DAFILA ACUTA.

Not a few Pintails were observed among the great flight of Ducks seen at Consécanière on September 23rd, and it was evident that this bird had already arrived in considerable numbers.

*QUERQUEDULA CRECCA.

There were several hundreds of Teal among the fowl seen on Consécanière on September 23rd. This species, we believe, is a winter visitor to the Delta; a few, however, are said by Jaubert and Barthélemy-Lapommeraye to breed in the Midi.

QUERQUEDULA CIRCIA.

The Garganey was abundant on the Étang Consécanière on September 23rd. It is chiefly a bird of double passage in the Camargue. Jaubert and Barthélemy-Lapommeraye say (p. 514) that it visits the Midi principally in the spring, but nests little there.

*MARECA PENELOPE.

Among the thousands of Ducks seen on Consécanière on September 23rd were many hundreds of Wigeon. This bird would appear to arrive early in the Midi, for Jaubert and Barthélemy-Lapommeraye state that it reaches Provence during the first days of September.

FULIGULA RUFINA.

We were somewhat surprised at the number of Red-crested Pochards seen in association with the other species of Anatinæ on the Étang Consécanière on the 23rd of September. A pair observed on the Mediterranean the previous day was busily engaged diving in search of food. The males were still in eclipse plumage.

*COLUMBA ŒNAS.

We first noted the Stock-Dove on the 28th of September, on which date we saw about fifteen, in small parties, and after this the species was not uncommon. It is a winter visitant to the Delta, and doubtless also a bird of passage. It is said to arrive in great numbers and to remain in the wooded regions of Provence.

TURTUR COMMUNIS.

The majority of the Turtle-Doves had evidently departed from the region, to which the species is an abundant summer visitant, for we observed only two examples, and these on the 16th of September.

PERDIX CINEREA.

We did not observe the Partridge during our autumn visit, though we saw it on two occasions in May 1894, and Mr. William Berry saw a pair, close to where we first observed the bird, in April 1898. Our sporting friends at

Arles expressed great surprise on our telling them that we had found this bird in the Delta, and said they were not aware of its presence there. In this connection it may be interesting to quote Jaubert and Barthélemy-Lapommeraye (p. 422). These authors say, "We scarcely know it in Provence. Those which breed on the banks of the Rhone and in the valley of the Durance become scarcer there each year."

COTURNIX COMMUNIS.

Our friend M. Rosseau, of Arles, informed us that great numbers of Quail arrive on the Mediterranean shores of the Camargue in the spring, and that the birds are so exhausted on their advent that they may be killed with a stick. This information leads one to conclude that these birds cross the Mediterranean in the longitude of the Rhone, otherwise they would hardly arrive in such an exhausted condition. We saw very few Quail during our visit.

*CREX PRATENSIS.

Quite a number of Land-Rails were shot in the Delta on the 19th of September, and the bird seemed to be abundant about that date; it is of double passage only.

ŒDICNEMUS SCOLOPAX.

The Stone-Curlew has been already mentioned as one of the species which we did not observe, though it was extremely common during the breeding-season. This little experience rather tends to bear out the statements of Jaubert and Barthélemy-Lapommeraye (p. 441), that it is to be found in the Camargue and the Crau *in summer*.

The Avocet (*Recurvirostra avocetta*) was still present in its haunts in the Delta on the 23rd of September.

*GALLINAGO MAJOR.

On September 19th a Great Snipe was seen at close quarters among some rough ground at Giraud, in the south-east of the Delta. Jaubert and Barthélemy-Lapommeraye say (p. 481) that this species is rather rare on passage in Provence.

TOTANUS HYPOLEUCUS.

The Sandpiper is a bird of passage in the Bouches-du-Rhône. One was heard passing southward down the Rhône on the night of the 16th of September.

*TOTANUS OCHROPUS.

The Green Sandpiper was fairly numerous on the margins of the freshwater pools at Giraud on the 19th of September. It is a bird of double passage in the region, according to the authors of 'Les Richesses.'

*TOTANUS GLAREOLA.

Several Wood-Sandpipers were seen on some marshy ground with pools of water at Giraud on the 19th of September. It is said by Jaubert and Barthélemy-Lapommeraye (p. 461) to visit the entire Midi in flocks in spring, more rarely in the autumn.

TOTANUS CALIDRIS.

The Redshank was present in great numbers on the margins of the Étangs throughout the Delta. It was abundant in May 1894, when we had little doubt that it was breeding, though Jaubert and Barthélemy-Lapommeraye consider (p. 458) that it is a bird of passage, and that there is no reason to suppose that the bird nests in the South of France—an opinion of which we much doubt the accuracy.

TOTANUS FUSCUS.

Many Spotted Redshanks were observed on the margins of a freshwater Étang named Le Taute, in the south-western portion of the Delta, on the 23rd of September. Several other species of Waders were also present, attracted, no doubt, by the fresh water, the lagoons being very shallow, and hence extremely salt.

TOTANUS CANESCENS.

The Greenshank was common on passage from the middle down to the end of September. It was observed on the margins of the Rhones and on the Étangs throughout the Delta, but was always seen singly.

*Limosa belgica.

There were many Black-tailed Godwits on the shores of the Étang Le Taute on the 23rd of September. The species is of double passage in the region.

Numenius arquata.

The Curlew is a bird of double passage in the Camargue, and was common during the period covered by our visit. Jaubert and Barthélemy-Lapommeraye say (p. 473) that a few nest in the Camargue; but although we saw a number on the shores of the Golfe de Fos on the 30th of May, 1894, we had no suspicion that the species was breeding in the Delta that season.

XLII.—*On the Dates of Temminck and Laugier's 'Planches coloriées.'* By C. Davies Sherborn.

In 'The Ibis' for 1868 (p. 500) Mr. G. R. Crotch gave a list of the dates of the livraisons of Temminck and Laugier's 'Nouveau Recueil des Planches coloriées d'Oiseaux.' Information, then unknown, has since come to my hand, and Professor Newton has recently acquired an unbound copy of the work, with several of the original wrappers preserved. These wrappers, of which there were four separate issues, and which are usually dated "182–," have furnished valuable facts, and have largely assisted this revised compilation. Férussac's 'Bulletin général' (1823), and its continuation, the 'Bulletin des Sciences Naturelles et de Géologie' (1824–31), provide much of the matter upon which the present statement is prepared, and this in its turn is supplemented by the Donation Book of the Linnean Society of London, which has so frequently been of service in my bibliographic enquiries.

The accuracy of the present determinations up to and including livraison 55 is proved in a curious manner by a footnote in Férussac, Bull. ii. (1824) p. 293, where the reviewer, Jean René Constantin Quoy, notes the date of the livraison containing the new generic word *Megapodius* as Aug. 1823. Now in Férussac, Bull. i. (1824) pp. 87 & 178, iv. (1825) p. 125, and v. (1825) p. 127, are four reviews, in each of which Quoy remarks upon the wonderful regularity in the publication of the livraisons, which came out month by month. Having therefore the exact date of the use of the word *Megapodius* in this book, we know that of livraison 37 in which *Megapodius* first appeared; and, knowing that, we can fix with absolute certainty the date of the first 37 livraisons. Moreover, the regularity of publication is still remarked upon in the last review quoted, and this takes our certain dates up to livraison 55. After 55 we have no further definite information beyond Férussac's Bulletin, which corroborates Crotch's list so far as the years are concerned; and there appears no reason to doubt that Crotch's list for the remaining livraisons is correct, with the one exception of livraison 75, which was received at the Linnean Society's Library in 1827, and should, therefore, be so dated.

An interesting fact which, though evidence of course to the original subscribers, had been overlooked by and unknown to later ornithologists is mentioned by Quoy in his first notice of the work (Bull. général, 1823, iv. p. 207), who states as follows:—"Les deux éditeurs . . . ne s'étaient d'abord engagés qu'à fournir six planches coloriées par mois; mais, depuis, ils ont ajouté plusieurs feuilles de texte à chaque livraison." With this change the price of the livraison was also raised, from 9 francs for the 4to and 12 francs for the folio issue, to 10 francs 50 c. and 15 francs respectively, while a paragraph was added to the notice on the wrappers, beginning—"Les Souscripteurs qui possèdent les vingt premières Livraisons qui désireront en acquérir le texte . . ." At first, therefore, there was no text; it was not until livraison 21 that text appeared, and then all that for livraisons 1–20 and 21 appeared at once. After livraison 21 text and plates appeared together. This statement will be found in Férussac, Bull. i. (1824) p. 179, and on the back of the original wrappers preserved in Professor Newton's copy (*e. g.* livr. 26), thus:—"Les Souscripteurs qui possèdent les vingt premières Livraisons et qui désireront en acquérir le texte, qui s'imprime dans ce moment, le recevront séparément et successivement à raison de 1 fr. 50 c. la livraison in-quarto et 3 fr. l'in-folio." The original publishers were Dufour and d'Ocagne, of Paris and Amsterdam, but latterly Levrault appeared as the bookseller at Paris.

The reason given by Quoy for the issue of a text is so quaint that it is here reproduced :—" C'est à dater de la vingt-et-unième livraison que les auteurs ont commencé à fournir un texte à chacune des livraisons, en y comprenant celles qui ont déjà paru. Ils s'étaient abstenus de la faire jusqu'ici, dans la crainte d'augmenter le prix de l'ouvrage, et surtout dans celle d'écrire après Buffon. Ils s'y sont déterminés parce que les douanes étrangères rejetaient une collection de gravures sans texte, qu'elles considéraient plutôt comme le produit des arts et de l'industrie en France, que comme un ouvrage scientifique destiné à parcourir toute l'Europe" (Férussac, Bulletin, i. [2] 1824, p. 179).

That Quoy was able to quote the generic and specific names of the birds in his early reviews is due to the fact that in the early livraisons the list of contents was printed on the back of the wrapper (Professor Newton has livr. 13 and 20). This may serve as an example :—

Treizième Livraison.

Pl. 73. Autour tyran (adulte).—*Falco tyrannus.* (P^{ce}. de Neuw.) Brazil.
Pl. 74. Hibou ketupa (mâle).—*Strix Ceylonensis.* (Lath.) Java, Ceylan et Bengale.
Pl. 75. Colin Sonnini (mâle).—*Perdix Sonninii.* (Temm.) Guiane.
Pl. 76. Brève thorachique (mâle). *Pitta thoracica.* (Temm.) Java.
Pl. 77. Fig. 1. Pie-grièche à casque (mâle).—*Lanius frontatus.* (Lath.) Nouvelle-Hollande.
Fig. 2. *Id.* *id.* (femelle).—*Lanius* *id.* *Id.*
Pl. 78. Fig. 1. *Pardalote pointillé* (mâle).—*Pardalotus punctatus**. (Vieill.) Nouvelle-Hollande.
Fig. 2. *Id.* (femelle).—*Pardalotus* *id.* *Id.*

* C'est *Pipra punctata.* Lath. Suppl. Ind. Orn. v. 2, p. lvi. sp. 1.

The nomenclature, therefore, should date as given in the following list. The text itself was by Temminck, not Laugier.

The following is a list of the livraisons (each containing six plates), with their dates of issue: the text for livraisons 1–20 came out with livraison 21:—

1. Aug. 1820.
2. Sept. ,,
3. Oct. ,,
4. Nov. ,,
5. Dec. ,,
6. Jan. 1821.
7. Feb. ,,
8. Mar. ,,
9. April ,,
10. May ,,
11. June ,,
12. July ,,
13. Aug. ,,
14. Sept. ,,
15. Oct. ,,
16. Nov. ,,
17. Dec. ,,
18. Jan. 1822.
19. Feb. ,,
20. Mar. ,,
21. April ,,
22. May ,,
23. June ,,
24. July ,,
25. Aug. ,,
26. Sept. ,,
27. Oct. ,,
28. Nov. ,,
29. Dec. ,,
30. Jan. 1823.
31. Feb. ,,
32. Mar. ,,
33. April ,,
34. May ,,
35. June 1823.
36. July ,,
37. Aug. ,,
38. Sept. ,,
39. Oct. ,,
40. Nov. ,,
41. Dec. ,,
42. Jan. 1824.
43. Feb. ,,
44. Mar. ,,
45. April ,,
46. May ,,
47. June ,,
48. July ,,
49. Aug. ,,
50. Sept. ,,
51. Oct. ,,
52. Nov. ,,
53. Dec. ,,
54. Jan. 1825.
55. Feb. ,,
56. Mar. ,,
57. April ,,
58. May ,,
59. June ,,
60. July ,,
61. Aug. ,,
62. Sept. ,,
†63. Nov. ,,
64. Dec. ,,
65. May 1826.
66. June ,,
67. July ,,
68. Sept. ,,
69. Oct. 1826.
70. Dec. ,,
71. Feb. 1827.
72. April ,,
73. July ,,
74. Sept. ,,
*75. Jan. 1828 [1827]
76. Mar. ,,
77. April ,,
78. July ,,
79. Aug. 1829.
80. Sept. ,,
81. Oct. ,,
82. Jan. 1830.
83. Feb. ,,
84. May ,,
85. July ,,
86. Sept. ,,
87. Jan. 1831.
88. May ,,
89. Feb. 1832.
90. July ,,
91. Dec. ,,
92. July 1834.
93.
94.
95.
96. } 1835.
97.
98.
99.
100. } 1836.
101.
102. Jan. 1839.

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* Linnean Society's Donation Book says 1827.

† From livr. 63 Crotch's dates are given, and these we may accept with the sole exception of livr. 75.

XLIII.—*Further Notes on Birds observed on the Yenisei River, Siberia**. By H. Leyborne Popham, M.A.

During my second journey to the Yenisei River in the summer of 1895 I either failed to find the nests, or was too late for the eggs, of several interesting birds, among them being *Tringa subarquata, Calidris arenaria,* &c. I therefore determined to take the first opportunity of renewing my acquaintance with the birds of the Yenisei district, and this opportunity occurred last year (1897). A sea-steamer, the 'Dolphin,' had been sent up the river to Yeniseisk in 1896, and being of more draught than was convenient, she was under orders to return down the stream as early as possible in the following spring, before the river fell to its summer level. My brother kindly placed this vessel at my disposal until the expedition sent out by him from England through the Kara Sea should arrive at the mouth of the river; and as I should thereby be enabled to proceed farther down the estuary than is possible in the Siberian trading-steamers, I thought such an exceptional chance of visiting a district hitherto unexplored in the nesting-season must not be missed. Accordingly I left London on April 12th, accompanied by my younger brother, and McGarry as bird-skinner. In 1895 I had been assisted by Mr. C. Boyce Hill, but this year I was obliged to do all my work alone, for I was unfortunate enough to lose the assistance of my brother at St. Petersburg, owing to illness which compelled him to return home. With his help my collection might have been almost doubled.

We left Moscow on April 29th, arriving by rail at Krasnoyarsk on May 8th, and by road at Yeniseisk three days later. Here we saw that some of the early migrants had already made their appearance, and that the ice on the river had broken up a few days previously. I at once set to work collecting specimens, and found that Fieldfares, Magpies, and Crows were already nesting. By May 18th the river at Yeniseisk was free from the drift-ice which comes down from the Angara River about ten days after the Yenisei has broken up, and Swans, Geese and Ducks were constantly flying northward; but for several days the weather continued too cold for the arrival of small birds, while those which had arrived remained silent, and were consequently difficult to find. With warmer weather matters soon improved and fresh species appeared daily, so that before leaving Yeniseisk I had collected skins of 61 different species.

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* For former paper see 'Ibis,' 1897, pp. 89–108.

Four weeks later we started down the river in the s.s. 'Dolphin,' hurrying on through the forest-region in order to reach the tundra at the river's mouth before it became too late for eggs. Whenever we stopped for wood or were delayed by gales, I went ashore to collect specimens and devoted a considerable portion of my time to the Thrushes, of which I succeeded in finding eggs of seven species; but otherwise I sacrificed almost everything to the chance of greater prizes on the tundra.

Before reaching Golchika we came up with the ice, but after a short delay we were able to continue our voyage to that place and arrived on June 29th. We remained there for three days, to give the ice time to clear away below us, and then proceeded north, with the intention of getting to Kuzkin (Sibiriakoff) Island if possible. This we were never able to accomplish, for we were soon compelled to put back, owing to ice, and to anchor close to one of the islands. It was while lying at anchor here that I was fortunate in finding a nest of *Tringa subarquata*.

On the following day, during a fog, a strong wind brought the ice down on us again and caused us to beat a retreat up stream. In order to make use of our enforced delay, we then made an attempt to reach the western shore by following along the edge of the ice, but found the coast on this side of the river still more completely blocked. After riding out a two days' gale at anchor in the middle of the river, we started again for Kuzkin Island, hoping that the gale might have dispersed the ice; but our enemy still barred the way on this, as well as on a third endeavour to reach this island, two days later. We, however, employed our time in a vigorous search, both on the mainland on the east shore and on the islands, for another Curlew-Sandpiper's nest; and, though we were unsuccessful, we were somewhat consoled by the number of Little Stints nesting there. The mosquitoes not only made it almost impossible to go ashore, but made our lives miserable on board as well.

On July 11th, having given up all hope of the ice allowing us to even see Kuzkin Island until all eggs were hatched, we returned to Golchika, calling at one of the Korsákoffski group of islands on our way to erect a beacon as a guide to navigation. This island differs from the other islands in the delta of the Yenisei (with the exception of a small one close by and joined to it by a submerged reef of rocks) in being comparatively high and composed of rock instead of the usual tundra. It has been selected by the natives as a fitting place for the erection of a "temple" to their fish-god. The "temple" consists of a pile of stones supporting some branches of trees ornamented with reindeer skulls and surrounded with old sledges.

The ice which frustrated our object was, of course, only one season's river-ice, and no doubt rapidly melting under the warm sun; but as the current is very weak so far down the river, and also at times runs up from the sea, it would take some considerable time to drift away, although higher up the river, where the stream is strong, it will come down at the rate of 100 versts a day.

McGarry remained on the 'Dolphin' amongst the Brekhoffski Islands to assist in taking soundings, laying down buoys, and erecting beacons for the navigation of the channels, and to bring home my collection by sea; while I took a passage up stream in the s.s. 'Yenisei,' one of the trading-steamers belonging to Kitmanoff & Co., and arrived at Yeniseisk after a voyage of three weeks on August 14th. During my return journey birds were in full moult, and were also screened from observation by the thick foliage and tall grass, so that I was able to add only seven new species to my list.

In several respects, especially in failing to secure any more eggs of the Red-breasted Goose, Bar-tailed Godwit, or

Pomatorhine Skua, my experiences in 1897 differed from those in 1895. This may partly be accounted for by my endeavours to fill up, as far as possible, the gaps in my former list and to search for eggs that I did not bring home in 1895.

I have to thank Mr. H. E. Dresser for his kindness in looking over the skins that I brought back, of which I now give a list, with the addition of a few that I was able to identify without obtaining a specimen. Where I have nothing to add to my remarks already published in 'The Ibis,' 1897, p. 91, I have merely given the name of the bird.

To make this list as perfect as possible I have also included some birds observed by Dr. Theel, of the Swedish expedition in 1876 (mostly at Krasnoyarsk, where I had no opportunity of collecting), and by Seebohm during the following year, although I have not personally met with them in the valley of the Yenisei. In these cases I have merely given the name of the species, with the name of the observer and the locality in brackets, and included the queries when these occur in their original lists.

Many of the birds which I observed at Yeniseisk were not seen farther down the river, but it does not necessarily follow that these do not occur farther north; for my time ashore at various places was often so short that it was quite impossible to secure or see more than a very small proportion of the species frequenting the locality. The latitudes given are approximate. An asterisk has been placed before the names of those birds which have been proved to nest in the valley of the Yenisei at, and north of, Yeniseisk.

1. *TURDUS MUSICUS.

The Song-Thrush nests at Yeniseisk and up to lat. 63° N., but is not very common as compared with other members of this family.

2. *TURDUS ILIACUS.

Redwings are not so gregarious as Fieldfares; they were nesting in Yeniseisk and elsewhere, indifferently in the pine-forest or willows. A nest contained nearly-fledged young on June 8th.

3. *Turdus pilaris.

Fieldfares, which were already nesting on my arrival at Yeniseisk, prefer the willows, especially those on the islands, for their nesting-grounds, though I have found small colonies in the pine-forest. The warbling song is always sung on the wing. The floods had evidently been exceptionally high in the spring and submerged all the early nests, for we found some which had been built and eggs laid in them before the water rose, as the eggs were covered with mud.

4. *Turdus fuscatus.

The Dusky Thrush was not seen at Yeniseisk, but was most numerous at Doodinka (lat. 69½° N.), where the forest comes to an end; and here we found five nests, one of them with seven eggs. The birds are very demonstrative when their nest is approached, but when once it is found they are very shy, and it becomes difficult to get anything but a long shot at them. The nests were generally placed in small isolated trees, and rarely on the ground, though none were more than 2 feet from it. Three clutches of my eggs have markings of the Fieldfare's type; three others much resemble the ordinary type of the Blackbird's, but one is rather browner in markings than the other two; in one of these latter a single egg is of the Fieldfare's type, but darker in ground-colour.

5. *Turdus obscurus.

Three nests of the Pale Thrush were found, resembling the Fieldfare's in construction, at Inbatskaya (lat. 64° N.): one about 4 feet from the ground on a stump, and another built close to the stem of a fir-tree on a branch about 20 feet high. This Thrush has a fine clear voice; he begins his song with a few rich notes, which are not much varied, and goes off into the same style of ending as of a Blackbird's song. The bird did not appear at Yeniseisk. The eggs are smaller than any of the other Thrushes' eggs found by us, and average 1·06 in. long by ·75 in. broad.

6. *TURDUS ATRIGULARIS.

Like the preceding species, the Black-throated Thrush appears to frequent the pine-forest only; and neither of them seems to be very gregarious in breeding-habits, for although several pairs were nesting in the same locality, they were not by any means in colonies, like the Fieldfares. I obtained my first specimen at Yeniseisk, but did not meet with this Thrush again till we came to Inbatskaya, where I took five nests, each containing six eggs, which vary considerably. Two clutches have the markings of the Mistle-Thrush, but the ground-colour is a deeper blue; other clutches are very much of the type of the Blackbird, and in one of these latter a single egg has the markings of the Mistle-Thrush type.

The nests, composed of dry grass with a lining of mud and an inner lining of broad dry grass, were all placed in small fir-trees close to the stem (except one, which was on the top of a stump) at heights varying between 3 feet and 6 feet. In all cases both the parent birds flew uneasily from tree to tree round the nest, constantly uttering their alarm-note, "chit, chit, chéet." When singing, the male whistles a few notes at a time, somewhat like a Song-Thrush, with considerable variation, but does not repeat the same phrase two or three times over as the latter does. The Black-throated Thrush appears to be extremely local in the valley of the Yenisei. The eggs measure from 1·08 in. to 1·15 in. long by from ·77 in. to ·84 in. broad.

7. *TURDUS SIBIRICUS.

In 1895 I was unable to thoroughly identify eggs of the Siberian Thrush, but in 1897 I was determined, if possible, to do so, and spent many hours watching supposed nests before I succeeded in shooting a bird from its nest and watching others sitting on their nests. I eventually took 18 eggs out of six nests (the greatest number in one nest being four) and shot two specimens of the female bird and four males. The neighbourhood of Toorukhansk appears to be their headquarters. The eggs, which place the identity of my supposed eggs of 1895 beyond doubt, can readily be distinguished from those of other Thrushes nesting in the same locality by their pale greyish-blue ground-colour and distinct spots. Four of my clutches somewhat resemble eggs of the Mistle-Thrush, one of which has the blue rather darker than the remainder; in another the eggs are very small and very pale bluish white in ground-colour; one clutch has the ground-colour very pale blue-green and is covered all over the surface of the shell with minute reddish spots.

I have never observed this Thrush in the pine-forest, but always in the willows fringing the shore and islands, on the topmost boughs of which the male sits and whistles a few rich notes, without any variation, but darts down out of sight at the slightest alarm. It is rather later in nesting than the other Thrushes, and was not seen at Yeniseisk. The nest is of the usual type: a rather untidy structure of dry grass, built in the fork of a willow a few feet from the ground, not so bulky as a Fieldfare's, with a scanty wall of mud and an inner lining of coarse dry grass. The eggs measure from 1·02 in. long by ·78 in. broad to 1·18 in. long by ·87 in. broad.

TURDUS NAUMANNI.

(Dr. Theel, at Yeniseisk and Doodinka.)

8. *SAXICOLA ŒNANTHE.

A few Wheatears were observed at Yeniseisk, and they became common again below the forest, eggs being taken at Golchika from under a log of drift-wood.

9. PRATINCOLA MAURA. Eastern Stonechat.

10. *RUTICILLA PHŒNICURUS.

Redstarts were nesting at Yeniseisk, but were not seen elsewhere.

11. *CYANECULA SUECICA.

Bluethroats were common all down the river to lat. 69° 40′ N.

12. CALLIOPE CAMCHATKENSIS.

The Ruby-throated Warbler was not noticed till June 2nd.

It then became fairly common at and near Yeniseisk, but no nest was found.

13. NEMURA CYANURA.

I chased a Blue-rumped Warbler in the forest (about 64° N.) and got a shot at it, but did not obtain it. This was the only one seen.

14. *SYLVIA AFFINIS.

Siberian Lesser Whitethroats appeared at Yeniseisk on May 25th, and a considerable migration took place on the following day, the willows along the river-bank being full of them. Two days later they had commenced building—three eggs having been found on June 2nd, and four more on the 7th.

15. SYLVIA HORTENSIS.

I believe that I have extended the range of the Garden-Warbler considerably to the eastward by finding it at Yeniseisk, where at the beginning of June I shot four males.

16. *PHYLLOSCOPUS SUPERCILIOSUS.

The Yellow-browed Warbler was accidentally omitted from my list of 1895. It is quite the commonest of the small forest-birds. It arrived at Yeniseisk on June 1st, and subsequently (till the limit of trees was reached) was daily heard and seen working its way up the willows and firs in search of food. It is a lively and tame little bird, but the "song" becomes rather wearisome. By watching the birds three nests were discovered, one of which contained seven eggs, another five. The domed nests were well concealed in the moss on the ground and composed of dry grass, with a lining of reindeer hair.

PHYLLOSCOPUS VIRIDANUS.

(Dr. Theel, in lat. 64° and 68° N.)

17. PHYLLOSCOPUS sp. inc.

On June 11th, while walking across some open meadows towards the bank of the river in about lat. 60° N., I shot a Warbler singing in a small bush, which has been described by Mr. H. E. Dresser thus:—"It resembles *Phylloscopus* *collybita*, but has no yellow either on the rump or the edge and underpart of the wing, which has no trace of bars, and the formula is the same as in *Ph. collybita*. Culmen 0·5 in., wing 2·42, tail 2·0, tarsus 0·75." The song was not a Chiffchaff's, but more like a Willow-Warbler's, and the bird had pale greyish legs.

18. *PHYLLOSCOPUS TRISTIS.

Siberian Chiffchaffs were among the earliest of the small birds to arrive at Yeniseisk, and my first specimen was shot on May 15th. They were common all the way down the river nearly up to lat. 70° N., frequenting the low bushes growing on the islands and banks of the river after the forest had been left behind. My first two nests were found on June 20th, and both were made in a bunch of dead grass left on the boughs by the floods when the river had overflowed at the breaking up of the ice. My other three nests were almost on the ground among the willows, and plentifully lined with brown and white feathers of the Willow-Grouse. These three nests had, in each of them, three eggs, which are white (pink before blown) with small dark brown spots at the larger end; but the first two nests had not yet eggs in them.

19. *PHYLLOSCOPUS TROCHILUS.

Willow-Warblers also had arrived at Yeniseisk on May 15th, and soon became common, but did not subsequently appear to be quite so numerous as the following species. One specimen shot at Yeniseisk has been pronounced by Mr. Dresser to be *Ph. trochilus* var. *gaetkii*; it is smaller than the ordinary Willow-Warbler. Both *Ph. trochilus* and *Ph. borealis* were met with as far as lat. 69° 40′ N.

20. *PHYLLOSCOPUS BOREALIS.

This Warbler, though not observed at Yeniseisk, was first obtained in lat. 61° N., and afterwards seen and heard at many places. No nests were found, notwithstanding a careful search.

*PHYLLOSCOPUS FUSCATUS.

(Dr. Theel, at Krasnoyarsk, Yeniseisk, and lat. 59° 10′ N.; also Seebohm at Yeniseisk.)

HYPOLAIS CALIGATA.

(Dr. Theel, at Vórogova, lat. 61° N.)

ARUNDINAX AËDON.

(Dr. Theel, at Krasnoyarsk.)

21. ACROCEPHALUS DUMETORUM.

I shot a Blyth's Reed-Warbler on June 11th in about lat. 60° N.

22. ACROCEPHALUS SCHŒNOBÆNUS.

Sedge-Warblers were not noticed at Yeniseisk, but were fairly common in the northern portion of the forest-region that I visited.

LOCUSTELLA CERTHIOLA.

(Dr. Theel, in lat. 62° N., and Seebohm at Yeniseisk.)

23. *ACCENTOR MONTANELLUS.

A nest of the Mountain Accentor found at Yermakovo, lat. 66° N. (about), was lined with the fur of water-rats, which were running about in the grass at this place in great numbers. The species was not observed south of Toorukhansk.

ACREDULA CAUDATA?

(Dr. Theel, at Yeniseisk.)

24. PARUS MAJOR.

Great Tits were seen only at Yeniseisk (lat. 58° N.), where they had arrived before us, or possibly remained through the winter.

25. PARUS ATER.

Also seen only at Yeniseisk, where one of a large flock feeding among the pine-trees was shot, and some more were seen a few days later; but otherwise the Coal-Titmouse was not so numerous as the following species.

26. *PARUS BAICALENSIS.

Mr. Dresser has identified the two skins that I brought home from Yeniseisk as *P. baicalensis.* Near this town I watched a pair of Marsh-Tits building in a hole in a dead willow, but when I visited the place about ten days later I found the forest had been burnt and the birds driven away.

27. PARUS CINCTUS.

I did not shoot a Lapp Tit until I reached Yermakovo, on my way up the river.

SITTA EUROPÆA.

(Seebohm, at the Koorayika river.)

28. *MOTACILLA ALBA.

White Wagtails were common everywhere; their favourite nesting-places were the stacks of wood prepared by the villagers as fuel for the steamers.

29. *MOTACILLA PERSONATA.

The Masked Wagtail is commoner than the preceding species at Yeniseisk, but this place seems to be the limit of its northern range in the Yenisei valley.

30. *MOTACILLA CITREOLA. Yellow-headed Wagtail.

31. MOTACILLA MELANOPE.

My notes contain no mention of the Grey Wagtail beyond a single specimen shot at Yeniseisk on May 28th.

MOTACILLA FLAVA.

(Dr. Theel, at Krasnoyarsk and lat. 65° 35′ N.; and Seebohm at Koorayika.)

32. MOTACILLA VIRIDIS.

At about lat. 68° N. I saw a pair of Grey-headed Wagtails and shot the male; I afterwards saw another (♀) on an island in lat. 72° 30′ N. Mr. H. E. Dresser describes my bird thus:—"It belongs to the northern form of Wagtail which I have called *M. viridis*, and which Dr. Sharpe in the British Museum Catalogue calls *M. cinereicapilla* (vol. x.); but this specimen differs in having the entire throat and chin yellow, and the indication of a stripe behind the eye also yellow; it has in fact more yellow than any specimen I have seen."

33. *ANTHUS GUSTAVI.

My first example of the Siberian Pipit was obtained at Toorukhansk on June 19th, and my only nest in lat. 69° 40′ N. on June 26th. This nest was in a rather swampy place among the dwarf willows, well hidden under a tussock of grass, the long grass falling over and completely concealing the four eggs, which are larger than those of *Anthus cervinus* and measure ·98 in. by ·65 in. The bird, when disturbed from its nest, fluttered along on the ground to lead me away from the eggs.

34. *ANTHUS CERVINUS. Red-throated Pipit.

35. ANTHUS TRIVIALIS.

Tree-Pipits were common at Yeniseisk.

36. ANTHUS RICHARDI.

On the open meadow-land adjoining the town of Yeniseisk, Richard's Pipits were scattered about in pairs on June 6th, and they probably nest there; but I left Yeniseisk too early for their eggs. I had, however, several opportunities of watching the birds, which would take short flights into the air, hover for a little while, and then drop down into the grass, where, if I moved, they would stand erect on their long legs, with necks stretched up at full length, presenting a very odd appearance.

37. ORIOLUS GALBULA.

The Golden Oriole was observed at Yeniseisk in 1895, but not in 1897.

38. LANIUS MAJOR.

During my return journey by road from Yeniseisk to Krasnoyarsk I often saw Shrikes on the telegraph-wires, which I supposed were *L. major*.

39. LANIUS PHŒNICURUS.

I saw no Shrikes on my way down stream, but on August 8th I secured a bird of the year out of a family-party of these Shrikes, and on the following day saw others, when in lat. 62° N. (about).

40. Ampelis garrulus.

Waxwings were seen occasionally on my way down the river, and while watching for a Little Bunting to return to its nest a pair perched on a tree close by me.

41. Muscicapa grisola.

A single example of the Spotted Flycatcher was shot at Yeniseisk on May 28th.

42. Muscicapa latirostris.

One specimen was obtained at Yeniseisk on June 8th.

43. Muscicapa parva.

On May 22nd at Yeniseisk I shot a Red-breasted Flycatcher singing at the very top of a tall pine, and saw another at the mouth of the Lower Tungooska river.

44. Hirundo rustica.

Swallows arrived at Yeniseisk on May 23rd, a week earlier than in 1895, and had all left again when I returned on August 14th.

45. *Chelidon lagopoda.

Siberian House-Martins appeared at Yeniseisk two days later than the Swallows, but were still flying round the church-towers in swarms in the middle of August. I was again too early to get any eggs, but observed them further north than I had done two years before, the last pair that I saw on my way north being in lat. 69° 40′ N.

46. *Cotile riparia.

Sand-Martins arrived at Yeniseisk in great numbers on May 28th, a week later than in 1895.

47. Coccothraustes vulgaris.

On June 13th, at Inbatskaya (lat. 64° N.), I shot a Hawfinch, which was probably a straggler, since no one else has previously reported its occurrence in the valley of the Yenisei, so far as I am aware.

48. PASSER DOMESTICUS.

House-Sparrows were common at Yeniseisk, but not observed north of a village below Inbatskaya.

49. PASSER MONTANUS.

Tree-Sparrows were most numerous around Yeniseisk. Three were observed a little south of the Arctic circle on June 16th.

50. *FRINGILLA MONTIFRINGILLA.

Very shortly after my arrival at Yeniseisk I found the willows along the banks of the river full of Bramblings. They remained common up to lat. 68° N.

51. *LINOTA LINARIA.

Nearly all the Redpolls I obtained are intermediate between *L. linaria* and *L. exilipes*; most of them are, however, rather nearer to the latter. They arrived at Yeniseisk in the middle of May in very large flocks, out of which at one shot I obtained specimens approaching each species. Redpolls were among the earliest of the young birds found.

52. URAGUS SIBIRICUS.

I shot two examples, both males, of the Siberian Rose-Finch at Yeniseisk, the only place at which I saw them.

53. CARPODACUS ERYTHRINUS.

Three specimens of the Scarlet Grosbeak were obtained between Yeniseisk and the Arctic circle—two males and one female.

54. PYRRHULA MAJOR.

Bullfinches were seen at Yeniseisk and at Inbatskaya (lat. 64° N.).

55. PINICOLA ENUCLEATOR.

Apparently the Pine-Grosbeak is not so common as the Scarlet Grosbeak. A male was shot near Toorukhansk, and a female not far north of the Arctic circle.

LOXIA BIFASCIATA.

(Dr. Theel records the Two-barred Crossbill at Krasnoyarsk and Yeniseisk.)

56. Emberiza citrinella.

Yellow Buntings were common at Yeniseisk by the middle of May and extended north to lat. 64°.

57. Emberiza leucocephala.

Mr. Kibort showed me skins at Krasnoyarsk of the Pine-Bunting and told me it was common there, but I failed to see it at Yeniseisk, although I kept a constant watch for it. Seebohm obtained it at the Arctic circle, and Dr. Theel at Krasnoyarsk and at lat. 59° 10′ N.

Emberiza cioides.

(Dr. Theel mentions the Siberian Meadow-Bunting at Krasnoyarsk.)

Emberiza spodocephala.

(Dr. Theel, at Krasnoyarsk and lat. 61° 25′ N.)

58. Emberiza aureola.

Yellow-breasted Buntings were very numerous around Yeniseisk. They arrived nearly a fortnight later than the Yellow Buntings, and did not appear to be yet nesting when I left Yeniseisk on June 9th. The males were very tame, and sat singing their monotonous song everywhere; but it was not until some days later that I was able to procure a female.

Emberiza rustica.

Seebohm obtained a Rustic Bunting in lat. 62° N., but in spite of a careful search I failed to see any.

59. *Emberiza pusilla.

In 1895 I did not meet with Little Buntings until I reached Toorukhansk on my passage north, but in 1897 I shot one at Yeniseisk, and did not observe them again till I found them nesting near Toorukhansk. After this they were very common till I reached the Brekhoffski Islands, on one of which I found them busily feeding their young (July 25th). Seebohm observed Little Buntings up to about the same latitude (71° N.), but not upon those islands.

I now possess, with those obtained in 1895, sixteen clutches of these eggs, no two of which closely resemble each other. Three are of the type of the Reed-Bunting; one has some resemblance in markings and colour to an egg of *E. spodocephala*; another, Mr. Dresser states, has a resemblance to the green type of *E. rustica*, but is more brown in tinge; three are of the Reed-Bunting type but rufous in tinge, and one of these has very few of the scratchy markings so characteristic of *E. schœniclus*. The nests were always lined with fine dry grass, with the exception of one, which contained a few reindeer-hairs. The greatest number of eggs was six, and this number was found on three occasions.

The song of the Little Bunting is pleasanter than that of most Buntings.

60. *EMBERIZA SCHŒNICLUS.

It was only at Yermakovo, just north of the Arctic circle, that I saw the Reed-Bunting, though I have no doubt it is common in other parts, as both Seebohm and Dr. Theel observed it elsewhere in the Yenisei valley.

The only nest found was built on the top of a willow-stump. I saw nothing of the smaller *E. polaris*, of which Seebohm obtained two specimens on the Arctic circle.

EMBERIZA POLARIS.

(Seebohm, at Koorayika.)

61. *CALCARIUS LAPPONICUS.

I found Lapland Buntings common and nesting as far north as we went (lat. 72° 50′ N.); but did not observe them at Yeniseisk, as in 1895.

62. *PLECTROPHENAX NIVALIS.

Golchika was the first place at which I saw Snow-Buntings; two nests were found under logs of drift-wood.

63. ALAUDA ARVENSIS.

There was only one place in which I saw Sky-Larks, and that was on the meadow-land near Yeniseisk, where I also saw the Richard's Pipits.

64. OTOCORYS ALPESTRIS.

Shore-Larks pass through Yeniseisk on migration in small flocks. They did not occur again till we had reached nearly lat. 70° N.

65. *STURNUS POLTARATSKII.

The Starlings which I shot at Yeniseisk, where they are common, have been identified as *S. poltaratskii* by Mr. Dresser. I did not observe them further north. They were nesting in the boxes set up for the purpose in most of the yards of the houses at Yeniseisk.

66. NUCIFRAGA CARYOCATACTES.

Nutcrackers were fairly numerous in the forest. Near Yermakovo I shot one of the large-billed variety, which was in full moult, on June 20th.

67. PERISOREUS INFAUSTUS.

Several flocks of Siberian Jays were seen in the forest on my way up stream, but I did not shoot a specimen.

68. *PICA RUSTICA (subsp. LEUCOPTERA).

Magpies were common and nesting at Yeniseisk. They are the Eastern form, with much white on the wing, extending on the inner web of the primaries nearly to the extreme tip.

CORVUS MONEDULA.

Dr. Theel and Seebohm report Jackdaws at Krasnoyarsk, but I did not see any at Yeniseisk (200 miles further north), though there are plenty of Jackdaws with very white collars to be seen at a short distance west of Krasnoyarsk.

69. *CORVUS CORONE.

Carrion-Crows are the commonest of the Corvidæ at Yeniseisk, nesting in the forest adjoining the town. I did not notice them further north than the mouth of the Middle Tungooska river (lat. 62° N.), though Seebohm saw them up to the limit of forest-growth.

70. CORVUS CORNIX.

I saw no Grey Crows at Yeniseisk in 1897. They had probably disappeared into the forest to nest, my arrival having been considerably later than in 1895.

71. CORVUS CORAX.

Ravens were occasionally seen in the forest.

72. CYPSELUS APUS ?

A pair of Swifts flew over me near Yeniseisk, which may have belonged to this or the following species. Dr. Theel reports *C. apus* at Krasnoyarsk and in lat. 65° 35′ N.

73. ACANTHYLLIS CAUDACUTA. Needle-tailed Swift.

Mr. Kibort showed me a skin obtained in Krasnoyarsk.

74. CAPRIMULGUS EUROPÆUS. Nightjar.

Not seen in 1897.

PICUS MARTIUS.

(Dr. Theel, at Krasnoyarsk and lat. 59° 10′ N.)

75. DENDROCOPUS MAJOR. Great Spotted Woodpecker.

Common around Yeniseisk.

76. DENDROCOPUS PIPRA.

The Siberian Lesser Spotted Woodpecker did not appear to be so numerous as the preceding species.

77. PICOIDES TRIDACTYLUS.

It was not until my return journey that I was able to add the Three-toed Woodpecker to my 1897 list.

GECINUS CANUS ?

(Dr. Theel, at Krasnoyarsk.)

78. IYNX TORQUILLA.

Wrynecks were first heard on May 20th, but only at Yeniseisk.

UPUPA EPOPS.

(Dr. Theel, at Krasnoyarsk.)

79. CUCULUS CANORUS.

The Cuckoo announced its arrival at Yeniseisk on May 22nd and soon became common. It was last seen at the Monastery (lat. 66° N.), where I shot a bird in the act of uttering the "hoo, hoo" sound attributed by Seebohm to the Himalayan Cuckoo; it proved, however, to be

C. canorus, which is the only species I have obtained on the Yenisei.

80. *Asio otus. Long-eared Owl.

81. *Asio accipitrinus. Short-eared Owl.

82. Syrnium uralense.

Mr. Kitmanoff, the curator of the museum at Yeniseisk, showed me a skin of the Ural Owl that had been recently killed at the gold-mines near Yeniseisk, and also from the same locality two skins (♂ & ♀) of the following species.

83. Syrnium lapponicum. Lapp Owl.

Surnia ulula. Hawk-Owl.
(Dr. Theel.)

84. Nyctea scandiaca.

There were many Snowy Owls sitting on the hummocks on the islands in the estuary, but as we could not find a nest I concluded they were not breeding this year, owing to the scarcity of lemmings; for where these had been running about in all directions two years before, there was not one to be seen in 1897. I secured an almost entirely white Snowy Owl, which had eaten off the head of a Brent Goose that I had left by its eggs, as a mark to find them on my return.

Bubo ignavus.
(Dr. Theel, at Krasnoyarsk.)

85. Circus æruginosus. Marsh-Harrier.

Circus cyaneus ?
(Dr. Theel, in lat. 61° N.)

86. *Buteo desertorum.

On my return from Yeniseisk to Krasnoyarsk I frequently saw Rufous Buzzards by the roadside, sometimes perched upon the telegraph-poles.

87. *Archibuteo lagopus.

On landing in lat. 69° 40′ N. we were not greeted by the cry of Rough-legged Buzzards this year, as we were in 1895. It seems that the places of those we shot two years before had not been filled by others; and the same thing applies to the

Red-breasted Geese and Peregrines, for we went some distance along the slope of the cliffs without seeing any of these birds. I found only one Rough-legged Buzzard's nest on this expedition.

88. Haliaëtus albicilla.

While steaming up the river in the s.s. 'Yenisei' I often saw a White-tailed Eagle flying along the river-bank in the forest-district, and one flew across the tundra to an island in lat. 69° 40′ N.

Astur palumbarius.

(Dr. Theel, at Krasnoyarsk.)

89. Accipiter nisus.

The only Sparrow-Hawk I saw was one which I shot on a fence in a village in lat. 66° N.

90. Milvus migrans?

A Black Kite flew over our steamer when nearing Yeniseisk on my return.

91. Falco uralensis?

On three occasions a large grey bird of prey flew past me while I was either busy packing away a specimen or getting into a boat, so that I was never able to get a shot at it. Mr. Dresser tells me it probably was the pale Ural form of *Falco gyrfalco*.

While steaming down the river a large grey bird crossed ahead of us, going through the most extraordinary performance; it would rise quickly into the air, turn completely over back downward, descend headlong for some yards, and then rise up again flapping its wings continuously; and this went on till the opposite shore was reached, quite two miles away.

92. *Falco peregrinus. Peregrine.

93. Falco subbuteo.

Hobbies were seen only at Yeniseisk.

94. Falco æsalon.

Only a single Merlin was seen on one of the Brekhoffski Islands.

95. *FALCO VESPERTINUS.

Five nests were found belonging to the Red-legged Falcon at Yeniseisk, where the birds are common, but this place appears to be near the northern limit of their range. Their ordinary cry is a long "cheet, cheet," but their alarm-cry when their nest is approached becomes a short and quickly-repeated "chi, chi, chi, chi."

96. *FALCO TINNUNCULUS.

Kestrels were fairly numerous and nesting at Yeniseisk, but scarcer than the preceding species.

PANDION HALIAËTUS.

(Dr. Theel, at Krasnoyarsk and lat. 61° N.)

97. BOTAURUS STELLARIS. Bittern.

CICONIA NIGRA.

(Dr. Theel, at Krasnoyarsk and Yeniseisk.)

98. *ANSER SEGETUM.

The Bean-Goose is the most numerous of the Geese on the Yenisei up to about lat. 72° N., beyond which it is replaced by the following species.

99. *ANSER ALBIFRONS.

The White-fronted Goose nests in considerable numbers on the islands at the mouth of the river; both parent birds are usually found at the nest.

100. *BERNICLA BRENTA.

The Brent Goose also nests on the islands north of Golchika; these being generally inhabited by either the Brent or the White-fronted Geese, but seldom by both species. The Brent, which is here the form with dark underparts, lines its nest, containing from three to five eggs, with far more down than the other Geese place in theirs. The sitting bird often remained on its nest with its neck stretched out along the ground until I was within a few yards of it.

101. *BERNICLA RUFICOLLIS.

The Red-breasted Goose appears to be exceedingly local on the Yenisei, and in 1895 we had evidently "killed the

Geese which laid the golden eggs," for I found no nests in 1897 in the place where we had found four nests on our previous visit.

CYGNUS MUSICUS?

(Dr. Theel records it at Krasnoyarsk and Yegarka, lat. 67° 25′ N.)

102. *CYGNUS BEWICKI.

Eggs and young in down of the Bewick's Swan were taken on the Brekhoffski Islands. This was the only Swan I was able to identify on the Yenisei.

103. ANAS BOSCAS.

A few Mallards were seen at Yeniseisk.

104. SPATULA CLYPEATA.

A single Shoveler flew past me at Yeniseisk.

105. *QUERQUEDULA CRECCA.

Teal were numerous up to lat. 70° 30′ N.

106. QUERQUEDULA CIRCIA.

I did not observe the Garganey in 1897, as I did in 1895.

107. QUERQUEDULA FORMOSA.

Near Yeniseisk a male Baikal Teal was shot at daybreak, and a few others seen in the same district, where this handsome Duck was well known to a local flight-shooter, who said it nested there. The call-note resembles the word "clock, clock."

108. *DAFILA ACUTA.

Pintails extended from Yeniseisk up to lat. 72° N.

109. *MARECA PENELOPE. Wigeon.

110. *FULIGULA MARILA.

Scaups nest up to lat. 70° 45′ N.

111. FULIGULA CRISTATA.

I saw only one Tufted Duck at Yermakovo, a short distance north of the Arctic circle.

112. *CLANGULA GLAUCION.

Goldeneyes are very common at Yeniseisk and are frequently shot, with the help of wooden decoys, by the local flightshooters.

113. *HARELDA GLACIALIS. Long-tailed Duck.

114. SOMATERIA MOLLISSIMA.

I only once saw Eider Ducks flying down the Golchika river in a small flock.

115. SOMATERIA SPECTABILIS.

King-Eiders were noticed in 1895 only.

116. ŒDEMIA FUSCA. Velvet Scoter.

117. *ŒDEMIA NIGRA. Scoter.

118. MERGUS SERRATOR.

A pair of Mergansers were seen at a lake where a pair were seen two years before.

119. MERGUS MERGANSER.

Goosanders were occasionally seen, but no specimen was obtained.

120. MERGUS ALBELLUS.

My man brought me a Smew at Toorukhansk that he had shot, and I afterwards saw three males on a lake somewhat lower down the river, but we did not find any eggs.

COLUMBA ŒNAS?
(Dr. Theel, at Krasnoyarsk.)

COLUMBA PALUMBUS.
(Dr. Theel, at Krasnoyarsk.)

COLUMBA GELASTES.
(Dr. Theel, in lat. 59° 10′ N.)

PERDIX CINEREA?
(Dr. Theel, at Krasnoyarsk.)

COTURNIX COMMUNIS.
(Dr. Theel, in lat. 61° N.)

121. **Lagopus rupestris.**

Not obtained on this expedition, but in 1895 specimens in winter plumage were shot at Golchika.

122. ***Lagopus albus.** Willow-Grouse.

All the white-winged Grouse I shot in 1897 belonged to this species. Two nests contained eleven eggs in each.

123. ***Bonasa betulina.**

Hazel-Grouse were common in the forest. I shot a few by calling them within range with a whistle. They are the grey form of the Hazel-Grouse.

124. **Tetrao tetrix.** Black Grouse.

Tetrao urogallus.

(Seebohm, at the Koorayika river.)

125. **Crex pratensis.**

I stalked a Land-rail at Yatsova (lat. 60° 10′ N.), succeeded in getting to within a yard of it in the dusk, and watched it for some time making the well-known noise.

Fulica atra.

(Dr. Theel, at Krasnoyarsk.)

126. **Grus communis.**

Cranes were migrating northward over Yeniseisk on May 16th, and I saw ten feeding on a meadow close to a village a few hundred versts lower down the river.

127. ***Charadrius pluvialis.** Golden Plover.

128. ***Charadrius fulvus.**

One nest with eggs of the Eastern Golden Plover was found near Golchika, and another with two eggs and two young in down. I succeeded in hatching out the two eggs, and thus have four young in down, which agree very closely with the young in down of *Ch. pluvialis*, but as a rule have the sides of the head and cheeks less marked with black than in that species: the upper parts are quite as yellow as in the most richly-coloured specimens of *Ch. pluvialis*, and the yellowish-white band across the hind-neck is rather larger and more clearly defined in the Asiatic bird.

129. *SQUATAROLA HELVETICA.

The Grey Plovers which nest near Golchika evidently reach their nesting-grounds by migrating down the river, for I saw about ten Grey Plovers at Vórogova (lat. 61° N.) on June 11th. Although we found four nests two years previously, I did not find any in 1897, and certainly saw far fewer birds on the marshes near Golchika, where they were breeding in 1895. I noticed none further north.

130. *ÆGIALITIS CURONICA.

I first observed Lesser Ringed Plovers on June 7th at Yeniseisk with a few Little Stints, and shot one of them. A few more were seen at the first village at which we stopped after leaving Yeniseisk.

131. ÆGIALITIS HIATICULA. Ringed Plover.

132. *EUDROMIAS MORINELLUS.

I shot a solitary Dotterel at Yeniseisk on June 7th, but did not meet with any more till I reached lat. 69°40′ N.

133. VANELLUS GREGARIUS.

At Vórogova on June 11th, in lat. 61° N., I shot a Sociable Plover, which was in the company of about ten Grey Plovers, and was no doubt a straggler.

VANELLUS CRISTATUS.

(Dr. Theel, at Krasnoyarsk.)

134. STREPSILAS INTERPRES.

I was disappointed in not being able to find a Turnstone's nest on the islands below Golchika, where several of these birds were seen.

135. HÆMATOPUS OSTRALEGUS.

Oyster-catchers were observed on the Yenisei only in 1895.

136. *PHALAROPUS HYPERBOREUS.

Red-necked Phalaropes extended as far north as we were able to go (lat. 72° 50′ N.). Several nests were found.

137. *PHALAROPUS FULICARIUS.

I had hoped to find another nest of Grey Phalarope's eggs, but was doomed to disappointment. I did not see any birds till I was north of Golchika, and then they were scarce.

138. *GALLINAGO MAJOR.

The Double Snipe first appeared at Yeniseisk on May 19th. Its range extends to the most northern islands of the Brekhoffski group (lat. 71° N.).

139. *GALLINAGO CŒLESTIS.

The Common Snipe was first procured at Yeniseisk on the same date as the Double Snipe; it is rarer than either *G. major* or *G. stenura*. No nests were found by us in either year that I was on the Yenisei, but Seebohm obtaind one nest in lat. 67° N.

140. *GALLINAGO STENURA.

On May 28th, at Yeniseisk, I found the first Snipe's nest with three eggs, and returning on the following day I flushed the bird from the nest; she only flew a few yards and alighted on the ground, where I promptly shot her, and was pleased to find that it was a Pin-tailed Snipe (♀), and that the fourth egg had been laid. Seebohm was therefore mistaken in his supposition that this Snipe does not breed south of the Arctic circle. I afterwards found three more nests: one at the monastery (lat. 65° 40′ N.) and the other two on the tundra. Two of these nests contained four eggs, and the other two eggs. They differ considerably from eggs of the Common Snipe in being larger, having the ground-colour as in eggs of the Double Snipe, and being much more richly marked. The markings are in almost all cases very profuse at the larger end, and in some confluent. The eggs measure 1·59 in. by 1·24 in., 1·61 in. by 1·12 in., 1·66 in. by 1·2 in., and 1·74 in. by 1·18 in.

I never heard the Pin-tailed Snipe utter any call when rising from its nest, but its "drumming" sounds like bubbling water, while it is continued much longer and is far louder than the drumming of the Common Snipe. The bird works its way to a considerable height and then descends rapidly, "drumming" as it goes; if close overhead the noise is terrific. It is a far easier bird to shoot than our Common

Snipe, the flight being heavier and more like that of the Double Snipe.

Gallinago gallinula.

(Dr. Theel, at Krasnoyarsk.)

Scolopax rusticula.

(Dr. Theel, at Krasnoyarsk and Yeniseisk.)

141. *Tringa alpina.

Dunlins pass on their northern migration through Yeniseisk, where I first saw them, on May 28th, with some Ringed Plovers. I afterwards took eggs at Golchika.

142. *Tringa minuta.

I found Little Stints extremely abundant at Golchika and on the islands and tundra north of that place. I found eighteen nests, one of which contained seven eggs, but three of these differed very much from the other four, and were probably laid by some other bird. Three females and two males were shot from their eggs.

143. *Tringa temmincki. Temminck's Stint.

144. *Tringa subarquata.

In August 1895 I found Curlew-Sandpipers in small family-parties on the islands in the delta of the Yenisei, and shot birds of the year, which I considered had probably been hatched not very far off. It was principally the chance of being able to reach their nesting-grounds that induced me to risk being too early for many of the birds to be found nesting in the forest-region, by hurrying on down the river as fast as the rapidly retreating ice would allow. Much interest is attached to this bird, owing to its nesting-grounds having been a secret for so long, and I therefore give the notes on my success in full.

July 3rd found us under way early, and proceeding downstream from Golchika until we were prevented from going on by ice almost completely blocking further progress; we therefore turned back and anchored close to one of the islands, which was composed of soft tundra-land with a rocky shore; I hurried ashore, accompanied by McGarry and

Hansen (the mate of our steamer). The first birds seen on landing were Little Stints, Snow-Buntings and Lapland Buntings, and several Richardson's Skuas were flying about over the centre of the island. Brent Geese also were plentiful, and I soon found a nest with four eggs. While walking across the island, McGarry called out to me that there was a Sandpiper in sight; I hurried up to him and was delighted to see a Curlew-Sandpiper. I sent the other two men away and lay down to watch the bird, which stood still for some time, then flew some distance away, and I lost sight of it among some Turnstones. After joining the other men, I followed a little flock of four Curlew-Sandpipers that flew past, and shot a couple of females at one shot as they were washing themselves at the edge of a small lake.

We walked on in pursuit of a Snowy Owl, which proved as wild as usual, and then returned to the Curlew-Sandpiper ground. We again saw the bird near the same spot, so Hansen and I lay down to watch it, while the mosquitoes did their worst. The bird stood for some time watching us and then began running about; it was very difficult to keep it in sight, for it took advantage of every little hollow to run in and every little ridge to hide behind. It then flew to another place and did the same thing again, so I asked Hansen to get up and walk away. The bird remained quite motionless, watching him go, and then ran backwards and forwards, and finally stopped still behind a small tuft of grass. After waiting for some minutes, I raised my head slightly; the bird instantly flew off and stood watching, but as it saw nothing moving it began running about again and settled down in the same spot; then I felt sure I had a nest safe, but to make doubly sure I went through the same performance again, a shower of rain no doubt hastening matters, and this time I distinctly saw the bird shuffle the eggs under it. I jumped up, shot the bird as it ran away, and soon had the pleasure of looking at the first authentic eggs of the Curlew-Sandpiper.

The bird, which proved to be the female, remained silent throughout; at one time I thought I heard it make a sound like a Dunlin, but as I afterwards saw Dunlins close by, I was probably mistaken.

The nest was a rather deep hollow amongst the reindeer-moss in an open space on a ridge of ground somewhat drier than the surrounding swampy tundra, in much the same sort of place as that generally chosen by a Grey Plover.

The four eggs, which were slightly incubated, resemble those of the Common Snipe, except in size, and also some eggs of the Purple Sandpiper. They measure from 1·4 in. to 1·47 in. in length, by from 1 in. to 1·02 in. in breadth. As we were unable to find another nest, although we devoted several days to the search, I imagine we were on the extreme western fringe of the breeding-grounds of this species.

The eggs have been figured in the Proc. Zool. Soc. 1897, p. 890, pl. li. figs. 1–4.

145. *MACHETES PUGNAX.

I met with Ruffs at Yeniseisk and as far north as I went.

146. CALIDRIS ARENARIA.

I had hoped that if able to get eggs of the Curlew-Sandpiper, I might find those of the Sanderling also, because I had shot young birds of the year in 1895 at Kuzkin Island; but apparently this species nests even further north than *Tringa subarquata*. I did not obtain a single example on this visit.

147. TOTANUS HYPOLEUCUS.

Common Sandpipers were plentiful at Yeniseisk, and were almost daily seen along the shore of the river up to the Arctic circle.

148. *TOTANUS OCHROPUS.

Green Sandpipers were common at Yeniseisk.

149. *TOTANUS GLAREOLA.

There were no Wood-Sandpipers to be found nesting near Toorukhansk, where I had taken their eggs from old Fieldfares' nests two years before. A Sandpiper's egg and a Fieldfare's egg were found in the same nest, but I had no opportunity of seeing if the bird was a Wood-Sandpiper or a Green Sandpiper.

150. TOTANUS FUSCUS.

A single example of the Spotted Redshank was shot on Aug. 9th. The legs of this bird are alternately red and black, having two broad bands of black above and below the knees, leaving the knees and feet red.

151. TOTANUS CANESCENS.

I saw a few Greenshanks at Yeniseisk, and one at the edge of the same pool where I shot one on my previous visit.

152. *TEREKIA CINEREA.

Terek Sandpipers appeared on June 5th at Yeniseisk ; we had not seen these Sandpipers so far south in 1895.

153. *LIMOSA LAPPONICA.

Although we obtained two clutches of eggs of the Bar-tailed Godwit in 1895, we did not find any nest in 1897, possibly because we had not the time to devote to such a long search as is required to find a nest of this bird.

154. NUMENIUS ARQUATA ?

155. *STERNA MACRURA.

Arctic Terns were common and nesting at Golchika and on the islands in the estuary.

156. STERNA LONGIPENNIS.

At Yeniseisk I shot one of these Terns on May 25th, having the bill black with a little red at the base, and the legs dull red; and at Toorukhansk on June 17th I shot one of a pair having a black bill and dark red legs.

157. *LARUS CANUS.

All the Common Gulls that I shot on the Yenisei on both journeys had the bill plain yellow, without the greenish base. They had arrived at Yeniseisk before us, and as long as we remained there were almost daily seen flying slowly northwards in small flocks. In the forest-region they are common, but do not appear to extend north of the growth of trees.

LARUS ARGENTATUS ?
(Dr. Theel.)

158. *Larus affinis.

I have nothing to add to my notes of 1895 concerning this Gull.

159. Larus fuscus.

No further example of the Lesser Black-backed Gull was obtained in 1897.

160. Larus marinus?

No Gulls resembling *L. marinus* were observed in 1897.

161. * Larus glaucus.

The Glaucous Gull does not occur south of Golchika. Eggs were taken from a nest on a ledge of rock on one of the islands in the mouth of the river. There was only this one pair of Glaucous Gulls amongst a large colony of *L. affinis* nesting on the island.

162. *Stercorarius pomatorhinus.

I stopped on my way north on June 27th at the island where we found Pomatorhine Skuas nesting in 1895, on purpose to look for them again, but there were no Skuas there; nor were any to be seen when I revisited the island on July 25th on my return journey. A single bird at Doodinka was the sole representative of the species seen.

163. *Stercorarius crepidatus.

Richardson's Skuas appeared to be the only Skuas nesting in 1897 on the Yenisei, and of these but two nests were found.

164. *Stercorarius parasiticus.

Although we frequently found the nests of Buffon's Skuas on my previous journey, we saw nothing of them on this occasion, excepting at Golchika, when a flock of twenty-two passed over on June 29th. I am convinced they were not breeding this year, owing to the almost complete absence of lemmings; and this may also account for the absence of *S. pomatorhinus*.

165. Colymbus adamsi.

A Siberian merchant, living at Karaool, gave me a skin of the White-billed Northern Diver obtained from the Boganida district. He told me that the bird is well-known far away on the tundra to the east, but is very rare on the Yenisei.

166. * Colymbus arcticus. Black-throated Diver.

167. * Colymbus septentrionalis.

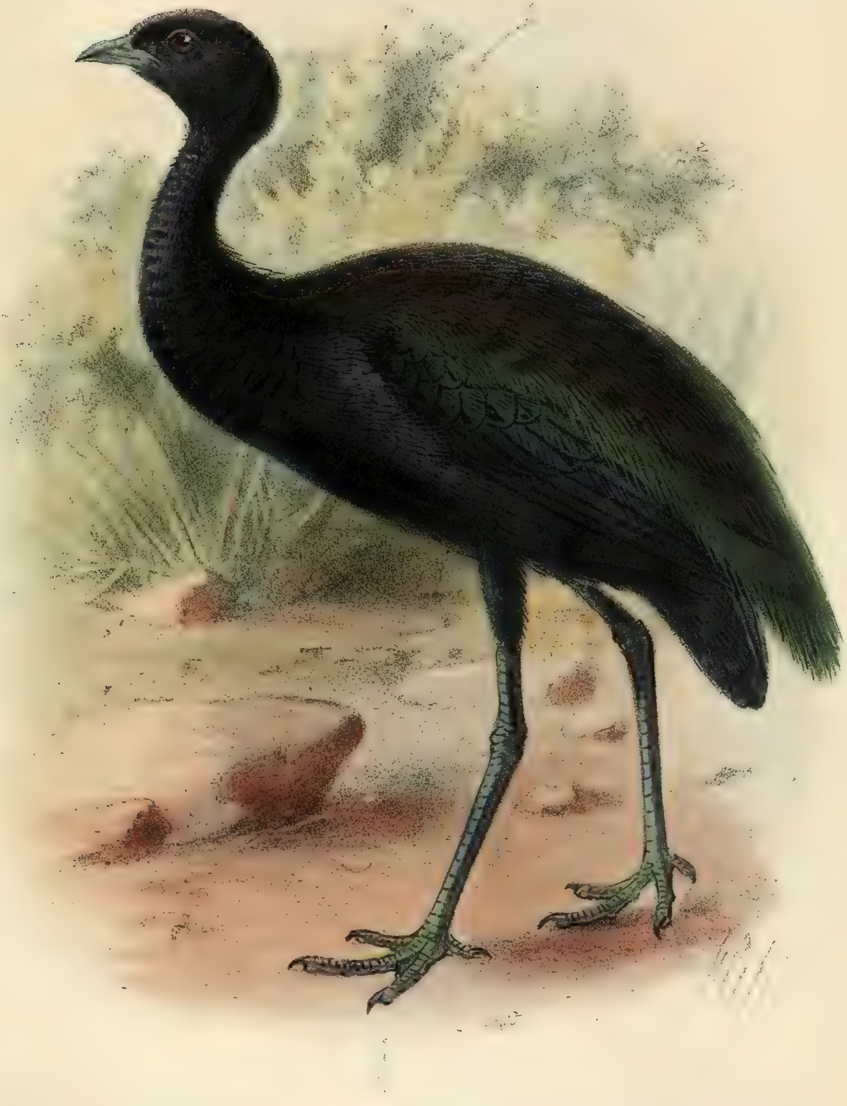
My experience differs from Seebohm's, in that I found the Red-throated Diver much commoner than the Black-throated Diver. The former is exceedingly numerous at Golchika.

XLIV.—*On the* Psophia obscura *of Natterer and Pelzeln.*

By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plate XI.)

In the account of the Trumpeters (Psophiidæ) in the British Museum Catalogue (vol. xxiii. p. 231), *Psophia obscura* of Natterer and Pelzeln has been united to *P. viridis* Spix. Knowing full well the almost unfailing accuracy of Natterer and his scrupulousness in naming new species without good reason, I was always of opinion that some mistake had been made here; but, no specimens of either of these species being in the British Museum or in any other collection in England, I have until quite recently been unable to set it right. I have now the opportunity of doing so, through the kind assistance of my excellent correspondent Dr. Goeldi, Director of the Museum of Pará. During a recent excursion to the Upper Rio Capim, in the Province of Pará, Dr. Goeldi obtained, near the waterfall of Acarý Ussána, two living examples of a Trumpeter and two dead specimens, and has kindly forwarded to me one of the latter, from which the accompanying figure (Plate XI.) has been prepared. There can be little doubt, I think, both from the locality and from the original description, that these birds (which Dr. Goeldi informs me were all four alike) are referable to *Psophia obscura*, and that they are distinct from *P. viridis* Spix, as I will proceed to show.



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PSOPHIA OBSCURA.

Psophia obscura of Natterer's MS. Catalogue was first published in 1857 by Pelzeln in the 'Sitzungsberichte' of the Academy of Sciences of Berlin with the following characters :—

> "*Ps.* capite, collo, alis, uropygio et corpore toto subtùs nigris; plumis colli inferioris apice nitore violaceo obsoleto parum conspicuo: dorsi plumis humeralibus elongatis laxis et secundariorum umbrinorum marginibus viridibus in fuscum variantibus: alarum tectricibus majoribus limbis latis nunc viridibus nunc violaceis: rostro nigro viridi paulum notato: pedibus nigrescentibus: scutis tibiarum et interdum scutis tarsorum in marginibus cinereo-virescentibus."

Pelzeln adds the following remarks :—

"This species comes much nearer *P. viridis* Spix than *P. leucoptera*, but differs from it in the following particulars. The bill in all its dimensions is rather smaller, and is arched forward from the commencement of the head-feathers. The nostrils converge strongly towards the middle line. The colour of the bill is black, with some green spots, especially in front of the nostrils and on the under mandible. The feathers of the under-neck are much looser and more divaricated than in *P. viridis*, and have only a very slight and obsolete violet tinge. Again, the green, and in some places violet, edges of the larger wing-coverts are much less shining and noticeable. The back, the lengthened shoulder-feathers, and the edges of the umber-brown are green glanced with brown, so that the last-named colour in certain lights predominates on the back. The general tone of colour is far darker and less lively than in *P. viridis*. A peculiar appearance is produced by the fact that the shafts of the long shoulder-feathers and of the green-edged secondaries appear to be very finely ringed with brown in certain lights. The colour of the feet is blackish, only the scales on the tibiæ and many edgings of the tarsal scales being of a bright greenish grey."

Natterer obtained four examples of this species, all near Pará. Of these three are in the Imperial Museum, and one was rejected as useless. His notes are as follows :—

(1) "*Female*, 6/7th Jan., 1835, from the low forest. Iris dark brown, eye-ring black. Bill black, with some pale green streaks in front of the nostrils and at the back of the lower mandible. Feet very dark blackish grey, only the front and hind scales of the thighs and the terminal halves of the upper shields of the tarsi pale greyish green. Toes dark grey. Large eggs in the ovary. Berries in the crop.

(2) "*Male* adult, Jan. 28th, from the high forest, where this bird lives on the ground in small flocks, roosting at night on the trees. Iris dark brown, eye-ring black. Bill black, slightly tinged with green: upper mandible in front of the nostrils, edges of the gape, and some specks on the under mandible blackish green. Toes and claws dark brown. Scales of the tarsus dark greenish brown, rather bright on their edgings. Naked portion of the tibia bright greenish grey. The tail reaches but a few lines beyond the tips of the wings. Contents of crop, berries.

(3) "*Male*, shot Jan. 31st. Toes and lower halves of the tarsi black, passing upwards into blackish brown and then into greenish brown, and becoming dirty grass-green near the tibiæ. Tibiæ blackish brown, but the scutes greenish: hinder tarsal shields also green. Bill black, almost without any green."

The following notes relate to the two specimens of *P. viridis* likewise procured by Natterer:—

(1) "*Female*, Rio Mamoré, Cachoeira de Guajara-guaçu, 27th Aug., 1829, from a flock in the forest. Eye large, iris dark chestnut-brown; hinder half of bill dirty yellowish brown, front half dirty bluish green. Nostrils pervious. Tongue long, small, and fleshy, with a horny tip. Feet pale greyish green, at the commencement of the unfeathered portion of the tibiæ more of a yellowish grey, all dusky. Tail reaching about three lines beyond the wing-ends.

(2) "*Female*, slightly moulting, Salto Theotonio, Nov. 1st, 1829, obtained on the right bank of the Madeira, on the ground in dense forest. Iris dark brown, eye-ring black. Colour of bill as in the former specimen, but nostril-pit and space between that and the front, as also the culmen at the

tip and a long stripe on the edge of the lower mandible, blackish. Scaled portions of the feet and toes bluish grey with greenish tinge; shielded portions pale greyish green, as also the naked parts of the tarsi. Tail reaching 1 inch beyond the wing-ends. This bird was brought in wounded, and when handled cried 'gaa-gaa'—and at the same time one could hear an indistinct sound in the belly."

In reply to enquiries, Dr. Finsch kindly informs me that two examples of *P. obscura* are in the Leyden Museum. One of these is one of Natterer's original specimens from Pará, received in exchange from Vienna. The other, from Temminck's old collection, was incorrectly labelled "*P. viridis*" by that ornithologist, but agrees nearly with Natterer's specimen. It was, no doubt, this wrong determination that led Dr. Bowdler Sharpe (Cat. Birds, xxiii. p. 231) to unite *P. obscura* to *P. viridis*, which is not represented in the Leyden Museum. The description of *P. viridis* in the Catalogue was taken from the Leyden specimens, and therefore belongs to *P. obscura**.

The type of *P. viridis* Spix is, I believe, at Munich, where I think I remember seeing it some years ago. It was obtained at Villa Nova, on the Upper Amazon. The only other specimens of *P. viridis* that I know of are those obtained by Natterer, as recorded by Pelzeln (see above), on the Madeira and Rio Mamoré, one of its upper branches. It is quite likely that Spix's specimen was not originally from Villa Nova, but had been brought there from the Rio Madeira, Villa Nova being, as Mr. Bates has shown ('Nat. on the Amazons,' i. p. 283), a kind of emporium of the trade of that river.

In reply to my enquiries at Vienna, Herr Lorenz has most kindly compared the specimens of *P. viridis* in the Imperial Collection with those of *P. obscura*, and writes as follows:—

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* Since these paragraphs were written, Dr. Finsch has issued his "Note on *Psophia viridis* and *P. obscura*" ('Notes Leyd. Mus.' vol. xx. p. 81), in which his remarks, communicated to me by letter, are published in print.—P. L. S.

"It is with great pleasure that I send you notes on the differences that I can make out between *P. obscura* and *P. viridis.* They are quite distinct. The names of the colours in the appended diagnoses are taken from Ridgway's 'Nomenclature':—

"Ps. obscura.	Ps. viridis.
Upper parts blackish, mixed with dark blue-green.	Upper parts brownish, varying to bright parrot-green or grass-green.
Larger coverts with a dark plum-purple gloss at the ends.	Purple gloss of larger wing-coverts more expanded, brighter, more bluish, varying to green.
Secondaries blackish brown.	Secondaries clearer, chocolate-brown.
Scale-like feathers on the fore-neck with a dusky plum-purple gloss.	Scale-like feathers on the fore-neck brighter, more glossy, prune- or dahlia-purple.
Bill and legs in the stuffed specimens blackish.	Bill and legs in the stuffed specimens lighter, brownish."

After this I think it will be allowed that *P. obscura,* although closely allied to *P. viridis,* and belonging to the same section of the genus, is specifically distinct, as might be expected from the different localities of the two species—*P. obscura* being from Lower Amazonia, and *P. viridis* from the far interior valley of the Rio Madeira.

[Since this article was written two living examples of *P. obscura* have been acquired by the Zoological Society of London, and are now in the Western Aviary. I have compared them with the specimen now figured, and find that they agree in every essential particular.—P. L. S., 9. vii. 98.]

XLV.—*Field-notes on the Land-birds of Sabaragamuwa Province, Ceylon.*—Part II. By Frederick Lewis, A.C.F. Ceylon, F.L.S.

[Concluded from p. 356.]

70. Corone macrorhyncha (Legge, B. of C. p. 346).

An abundant species in the province, and generally distributed up to 3000 feet altitude, but after that it becomes scarce and is only occasionally found. In the dry zone it is not quite so common as in the moister parts of Sabaragamuwa, but as it to a great extent follows man, its seeming decrease of numbers is possibly in proportion to sparse peopling of the "Bintenna" country.

It nests in tall high trees, often selecting the highest branches of cotton-trees on which to build its loosely-constructed nest. As already stated, the true Indian Koel deposits its eggs in the nest of this Crow, and it is noticeable that whenever the opportunity occurs the Black Crow never ceases to persecute the Koel, which it naturally regards as its enemy.

This species quite takes the place of *C. splendens*, so common on the Western-Province coast.

71. CISSA ORNATA (Legge, B. of C. p. 353, pl. xv.).

This handsome Jay is peculiar to Ceylon, and its distribution in the province is somewhat remarkable. I have met with it at the highest altitudes, and again at the foot of the hills on the confines of the dry zone. Even in so wet a district as Bamberabolowa, at the foot of the Peak range, I have found it common and nesting. Again, on the outlying range of hills that jut out into the plains from Rukwana I have obtained it, but the limit appears to be bounded more by the rainfall than by altitude, as I have found it nesting at 1500 feet and at 4500 feet above the sea.

The nest is a large roughly-built structure, made of small sticks and twigs, with a fairly large depression in the middle, with little or no "lining." I obtained three eggs in December, of a pale bluish ground-colour, with spots, blotches, and streaks of umber-brown, that fades into the ground-colour in places, so as to give a brownish-blue tint.

72. ORIOLUS MELANOCEPHALUS (Legge, B. of C. p. 357).

A common bird in the province, but more abundant in drier parts of it than in the wet. I have obtained examples up to 3000 feet, but have not seen it above that altitude.

73. Graucalus macii (Legge, B. of C. p. 360).

Generally confined to the low country, where the rainfall is moderate, but it is not always so restricted. I have obtained it at Balangoda (1700 feet) and the country eastward, and again at Yatiyantota, in the valley of the Kalani river, and frequently in the Kégalla district, where it is fairly common.

74. Pericrocotus flammeus (Legge, B. of C. p. 363).

This beautiful Minivet is widely distributed in the province, ascending to the Horton Plains, but it is not to be regarded as particularly common, especially as in the south-west monsoon it becomes scarce. In the Balangoda country I found it plentiful in the high forests, but as the country to the east is now open, it was noticeable that these Minivets were more to be found to the westward than to the eastward. They are by no means uncommon in the high forests at the Horton Plains.

75. Pericrocotus peregrinus (Legge, B. of C. p. 366).

Moderately abundant, but I have only found it in the open dry country to the east of the province.

76. Lalage sykesi (Legge, B. of C. p. 369).

Chiefly confined to the low country up to 2000 feet, but I fully endorse Major Legge's statement that it "is neither common nor abundant."

77. Hemipus picatus (Legge, B. of C. p. 375).

Chiefly confined to the hills in the moist zone, where it is found on the confines of the forest and on the edges of the semi-cultivated chenas- and patina-lands.

78. Lanius cristatus (Legge, B. of C. p. 377).

A migratory species, arriving early in the north-east monsoon and spreading all over the open parts of the province, both in the wet and dry zones, but I have rarely met with it in heavy forest.

79. Buchanga leucopygialis (Legge, B. of C. p. 392, pl. xvi.).

A common species, mostly confined to the wet zone and to the more open parts of the country (except grass-lands) up to 4000 feet, at which elevation it becomes rare. I have found it in great abundance throughout the Kegalla district, till the large wet forests of the Adam's Peak range are met with, when it becomes scarce. I have obtained its eggs in Balangoda (2000 ft.), Mawanella, in Kégalla (400 ft.), and at Ratnapura (100 ft.).

Endemic.

80. Dissemurus lophorhinus (Legge, B. of C. p. 396, pl. xvii. fig. 2).

A strictly forest species, with a rather extended range of distribution in the province. I have obtained it nesting in forest on the banks of the Hulanda Oya stream in the dry zone, and again in the wet forest below Meriacotta Peak at an altitude of nearly 5000 feet.

In all the forests along the base of the main zone of hills dividing the Sabaragamuwa Province from the Central Province I have found this species, and in the dense wild country extending from the Kukulu Korah over into the Colombo district. I might add that a very noticeable habit with this fine Drongo is its frequently consorting with the noisy little parties of *Malacocerci*; in fact, if a party of these are out feeding, one is almost certain to find a pair of Drongos following them, but I have never observed them to be on other than most friendly terms.

Endemic.

81. Dissemurus paradiseus (Legge, B. of C. p. 399, pl. xvii. fig. 1).

I have only met with this handsome Drongo in the dry forests of the Nuda Korah and at Timbolkettia, on the road from Hambantotta to Pelmadulla; in fact, it seems at about this point to take up the same position that the preceding species leaves off.

82. Terpsiphone paradisi (Legge, B. of C. p. 404).

A partially migratory bird, found in its greatest abundance during the N.E. monsoon months, when its distribution extends from the plains of the low country up to 5000 feet, but after 3000 feet altitude is passed this Flycatcher is only a rare visitor. The various phases of plumage of this bird have been the subject of much discussion, some naturalists contending that birds in the red stage are of one species while those in white are distinct, citing in support of this argument that the natives of the country call this bird by two distinct names. The natives of Ceylon are not, however, strict observers of bird-life, and though some of their names are apt as regards their signification, they are frequently misleading. In this case, in the red stage, the Paradise Flycatcher is called by the Singalese "Ginne horà," meaning literally "Fire-thief" (*ginne* = fire, and *horà* = a thief), while in its white dress it is called the "Reddà hora," or "Cotton-thief" (*reddà* = a cloth —usually implying a white cloth). These names are clearly taken from the pretty way in which these birds flick their long tail-feathers when flying from bush to bush or tree to tree, giving a fanciful resemblance to a burning coal or bit of white cloth being whisked about.

If there is any doubt on the point still left, I may add that I found a Paradise Flycatcher in the compound of the District Engineer's house at Ratnapura.

I obtained a nest placed in the low fork of a small tree in thick forest. The nest was delicately constructed, deeply cup-shaped, and covered on the outside with mosses and lined inside with hair. Eggs three in number, of a delicate pink ground-colour, thickly freckled with red-brown spots.

83. HYPOTHYMIS CEYLONENSIS (Legge, B. of C. p. 408, pl. xviii. fig. 2).

Indigenous to Ceylon. The distribution of this Flycatcher does not appear to have been sufficiently followed, for I note that Legge says, "not ranging much above the low hill-districts," adding that he had seen it between 2000 and 3000 feet in the low country to the N.E. of Kandy.

My own observations give it a much wider range, for I have procured it at 5000 feet in the cold wet forests east of Adam's Peak. I found it fairly common in all the Balangoda and Bamberabolowa country, and from thence right down to the dry forests at the foot of the Rukwana hills, and again in the thorny scrub-lands at Liyangaha Ela, in the driest part of Sabaragamuwa. The colouring of the bird varies in its intensity of blue with the rainfall of the country it inhabits: thus, the birds I have procured in the cold wet hill-forests are many shades darker than specimens obtained in the plains.

84. Culicicapa ceylonensis (Legge, B. of C. p. 410).

A common species, but chiefly confined to the upper hills. I have found it all through the Peak forests and onward to the Horton Plains, and again in the Rukwana hills, but rarely below 2000 feet and never in the dry forests.

I procured the nest and eggs in the Bogawantalawa district, the former being placed in a crevice of a banyan-tree, and most beautifully concealed by moss. The eggs were three in number, dull yellowish white, with the broad end spotted and blotched with purplish brown, ending in freckles.

85. Rhipidura albifrontata (Legge, B. of C. p. 412).

I have obtained this very beautiful little Fantail-Flycatcher only in the dry zone on the edge of the Uva Province and the wild bush-country.

86. Alseonax latirostris (Legge, B. of C. p. 415).

A migratory species, arriving early in the north-east monsoon and spreading over the province to a high altitude, but chiefly confining itself to the moist districts.

87. Alseonax muttui (Legge, B. of C. p. 417, pl. xviii. fig. 1).

I have obtained this little indigenous Flycatcher in Balangoda, and again in the wet forests on the west of the province and at the foot of Adam's Peak. It might easily be mistaken for *A. latirostris,* except that it is much more rusty brown in colour.

88. Stoparola sordida (Legge, B. of C. p. 419, pl. xviii. fig. 3).

An indigenous and mountain species and commonly found.

The lowest level at which I have seen it is in the valley of the Wallaway river. I have obtained several nests, frequently in mossy banks and in moss-covered rocks, and also in old dead tree-stumps. The eggs are from three to four in number, of a pale, soft, white ground-colour, splashed and speckled with dull red.

89. SIPHIA TICKELLIÆ (Legge, B. of C. p. 421).

Fairly common throughout the moister parts of the province and ascending to about 3000 feet. It is frequently to be met with in the native gardens, especially so about the town of Kegalla. In the forests round the Adam's Peak mountain it frequently occurs, as also in the forests of the Rukwana district.

90. MUSCICAPA HYPERYTHRA (Legge, B. of C. p. 428).

A migratory species, arriving with the N.E. monsoon and rapidly spreading over the hill-districts of the province.

Its distribution is somewhat curious for a migrant, as it is rarely found below 2000 feet; but in order to become suddenly plentiful, as it does, at high altitudes, it must clearly pass over a long space of wooded country, hundreds, if not thousands, of feet below its altitude of flight during migration. Equally its departure must be from a high level, as it disappears as suddenly as it arrives; while again, as noticed by Legge, it often deserts places where, during previous seasons, it was an abundant visitor.

91. PRATINCOLA BICOLOR (Legge, B. of C. p. 430).

A resident hill-species, and, so far as the distribution in Sabaragamuwa goes, found only on the Horton Plains and on the grass-covered hills above Galagama. It quite takes the place in the mountain-plains of the succeeding species, and may be regarded as plentiful.

I obtained a nest from a hollow in an old rhododendron-tree with one egg, of a soft faint green colour, closely mottled and streaked with red-brown, forming almost a cap on the broad end.

92. Copsychus saularis (Legge, B. of C. p. 433).

Common all through the province up to 4000 feet, but it must not be regarded as a forest-species purely, as it is more frequently found round the haunts of man than elsewhere. It is well known both to the Tamils and the Singalese; thus, among the former, the "Magpie-Robin" is called the "Karrichan Koroovic" (or "Charcoal-bird"), while, from its frequency among the coconut-gardens of the country, it gets the name of "Pollitcha" with the Singalese. It is one of our sweetest songsters, yet, notwithstanding, it is seldom caged.

93. Cittocincla macrura (Legge, B. of C. p. 437).

Chiefly confined to the dry zone, where it is abundantly found in all the thorny forests. It ascends in the eastern half of the province up to Belihuloya and round the foot of the hills towards Haputela.

94. Thamnobia fulicata (Legge, B. of C. p. 440).

Very common in all the dry parts of the province and intermediate region; thus it occurs in the whole of the Kegalla district, the lower part of the Rukwana hills, and Balangoda up to 1600 feet.

I have obtained a nest at 1400 feet with eggs; these are generally two in number, of a greenish-white ground-colour, thickly spotted and blotched over the broad end with dull brownish red varied with greyish brown.

95. Larvivora brunnea (Legge, B. of C. p. 446).

A migrant, arriving with the N.E. monsoon. I have only met with it occasionally at 4000 feet altitude.

96. Turdus kinnisi (Legge, B. of C. p. 449).

A permanent resident, confined to the hill-country. It is fairly abundant in the forests above 4000 feet, and often visits the ornamental trees that are planted round the houses in tea-gardens, thus reminding one of the English Blackbird. I have found it once as low as 2000 feet in the neighbourhood of a high range of hills, but it is unusual to find it so low. It breeds in the higher tea-districts of Bogawantalawa and

Upper Dimbula, in the Central Province. The eggs are large in size, being over 1 inch by about $\frac{8}{10}$, pale soft green with blotchings of light umber or greyish red, with an intermingling of fine spots of the latter tint.

Murray gives this bird as indigenous to Ceylon, but it may be found to be identical with the larger Nilghiri species, *T. simillimus*.

97. Turdus spilopterus (Legge, B. of C. p. 451, pl. xix.).

This beautiful Thrush is peculiar to Ceylon and has a wide distribution in Sabaragamuwa. It is to be found in the wet forests at 100 feet, and again up at the Horton-Plain forests (7000 ft.), while in some of the deep forests of the dry zone it may be met with; but there is some considerable variation in colour between the birds of the two extreme limits of rainfall, the darker forms always indicating a wet district. I have obtained several nests, but in all cases in short, low trees, quite close to the ground. The eggs number two, of a light pale bluish ground, much speckled and dotted with dull red or light salmon.

98. Turdus wardi (Legge, B. of C. p. 453).

I have only once met with this Thrush in Sabaragamuwa, and then under rather unusual conditions. I was on my way to Denagama, in the Kadawatta Korah, in a country where grass-lands are abundant, with here and there patches of dense forest. On going through one of the latter I was attracted by a short twitter-like note that I found came from this unmistakable Pied Blackbird, and soon I found that I was in a regular little flock of some 20 or more birds. I have frequently revisited the spot, but have never obtained fresh examples.

99. Oreocincla imbricata (Legge, B. of C. p. 455).

A very rare indigenous Thrush. I have only three times obtained it: once on the ridge dividing Central and Sabaragamuwa Provinces at 5000 feet, a second time in the rocky forests above the Boltumbe district, and once in the Pusselawa district in the Central Province.

100. Monticola cyanus (Legge, B. of C. p. 460).

I have only once obtained this bird among a mass of rocks in the Balangoda district during the N.E. monsoon.

101. Myiophonus blighi (Legge, B. of C. p. 463, pl. xx.).

This large and beautiful Thrush is chiefly confined to the hill-country, and does not appear to be particularly plentiful. From my own observations it does not occur below 3000 feet. I procured it twice above 4000 feet in the Morahella forest, and again below the Meriacotta Peak, near Maskeliye. I have seen it in the Gillimali forests and three times on the Central-Province side of Adam's Peak. Its shy habits may have something to do with its not being more frequently seen; and, as it appears to confine itself to dark forests and streams abounding with rocks, it is all the more difficult to study.

I strongly suspect the existence of an allied form in Ceylon, as I once had an opportunity of watching a pair of birds in the wet forests of Gillimali which, while closely resembling this species, could yet be distinguished by the shorter tail and much browner shade, with a smoke-black head. Unfortunately, at the time I was without my gun, so that I can only record the above as being a possible "find," that may fall to the luck of other ornithologists to place on record.

I may add that I procured a hen bird with much duller markings than the male, and with a bright blue patch on the interscapulars.

102. Hypsipetes ganeesa (Legge, B. of C. p. 469).

A very abundant species and found throughout both districts of the province. It is frequently met with in flocks, affecting forests on the edges of patina- and chena-lands and on the wild slopes of Raja Singha forest, towards the south. It breeds in February and March in rather high trees, constructing a loose nest, like the others of the Bulbul tribe. In the Kegalla district, where forest is less plentiful than in the interior of the province, these birds select solitary "kahata" trees (*Careya arborea*) to build in. The eggs are two in number, of a delicate lavender-white ground-colour, thickly speckled and dotted with dull red spots.

103. Criniger icterıcus (Legge, B. of C. p. 472).

A very common forest-loving bird and widely distributed in the province, but less common at extreme altitudes than in the intermediate districts, where the rainfall is more moderate. I have obtained its eggs only once, in April. The nest was of the typical Bulbul form and placed within a short distance of the ground. The eggs were two in number, and pure white.

104. Ixos luteolus (Legge, B. of C. p. 475).

One of our commonest birds, and locally known as the "Cinnamon-Thrush," probably because it is a familiar form in the "cinnamon" gardens around Colombo. It is generally distributed over the bush-country as far up as 3500 feet, but is rarely met with in the deep wet forests of the province. It breeds towards the end of the year and just before the burst of the S.W. monsoon, constructing its nest in bushes and low trees. The eggs are often four in number, of a dull white ground-colour, thickly spotted and splashed with dull red, often of a purplish tinge.

105. Rubigula melanictera (Legge, B. of C. p. 476, pl. xx. fig. 1).

An indigenous species. It is chiefly confined to the wet forests, ascending up into the hill-country to an altitude of 4000 feet towards the base of the Adam's Peak range. I have found it particularly common about Balangoda (2000 feet) and in the very wet forests in the neighbourhood of Kittulgalla. It breeds in March and April. The nest is in the usual small cup-shaped form, of loose construction, placed a few feet from the ground, containing two or three eggs of a dull white colour, spotted and blotched with dull red varied with a bluish marking.

106. Kelaartia penicillata (Legge, B. of C. p. 480, pl. xxi. fig. 1.)

A very beautiful Hill-Bulbul, confined for the most part to altitudes above 4000 feet. I have frequently obtained it at the Horton Plains (7000 feet), and at Morahella (4000 feet), where it is abundant. The lowest altitude at which I have found this bird was at Massena, in the Pettiagalla range of hills, at 2600 feet.

The nest is as like that of any of the foregoing species as possible, and constructed in the same loose manner. The eggs are two in number, rather stout ovals, of a dull purplish ground-colour, very closely freckled and splashed with red-brown or warm brown spots and markings.

107. Pycnonotus hæmorrhous (Legge, B. of C. p. 482).

This is the common "Madras Bulbul," and to be found all over the province up to 4000 feet, but not in forests. It is frequently caged by the natives and kept as a domestic pet.

It breeds in the most unprotected places, often selecting a sun-flower (*Hibiscus*) hedge as the location for its rudely-built nest. The early part of the year is generally the season for nidification, and it is noticeable that at this period the cock birds become extremely pugnacious, and native children often amuse themselves in setting caged Bulbuls to fight. The eggs are three, and often four, in in number, of a pale reddish-white ground-colour, closely mottled with spots and blotches, that at the broad end form a complete zone of marking round the egg. I have remarked that the eggs of this species are paler at lower and drier altitudes than those obtained in very wet districts.

108. Phylloscopus jerdoni (Legge, B. of C. p. 485).

A common bird, but rarely seen, owing to its uniform green colouring, which so closely matches the foliage of the trees it frequents that it is not readily distinguishable. I have met with it up to the base of the Galagama hills (4000 feet), but it appears to be more plentiful in thinly-wooded lands between Ratnapura and Mahawellatenna (from 200 to 2000 feet).

109. Iora typhia (Legge, B. of C. p. 490).

This very beautiful little Bulbul is abundant throughout the province up to about 3000 feet, and for the most part affects the "chena"-lands, though it is not unfrequently found in forests. I have repeatedly obtained it in native gardens, where it loves to infest mango-trees. Its beautiful prolonged whistle is very striking, and it may be added that the bird appears to have a sort of ventriloquistic power, as I have frequently remarked that when the bird was close at hand its call appeared to come from quite an opposite direction.

I have not myself taken the eggs, but I have been shown specimens obtained in the North of Ceylon. They were of a grey-white, lightly and sparingly marked with pale brown spots.

110. Malacocercus strictus (Legge, B. of C. p. 494).

A typical low-country bird, and commonly known as the "Suru Sistus," or Dung-Thrush. It is confined chiefly to open country, and, so far as I am aware, is never found in forests. It breeds in March and April, placing its nest in low bushes. The eggs are usually three in number, of a beautiful greenish-blue colour, and look as if highly polished.

111. Malacocercus rufescens (Legge, B. of C. p. 497, pl. xxi. fig. 2).

A common forest species, very much like *M. strictus* in its habits, but distinct as regards its selection of forest and bush country instead of the inhabited places and gardens frequented by the former.

I have found it in the wet forests of the Adam's Peak range up to 4000 feet, and again on the borders of the Galle district and in the Kukulu Korah. Like the last, it is gregarious, and it is noticeable that when parties of these birds are found, they are most frequently to be seen followed by the large Subcrested Drongo (*Dissemurus lophorhinus*), which I have no doubt makes use of them for unearthing grubs and worms that the Drongo snatches away. I have not taken the eggs of this indigenous bird.

112. Garrulax cinereifrons (Legge, B. of C. p. 499, pl. xxii. fig. 2).

Not uncommon, but restricted to the forests. I have obtained it in the Peak forests up to 5000 feet, and in the forests of the Lower Bulatgama, the Kuruwiti Korah forests, and on the borders of the Western Province. I have not met with it in any of the dry forests in the east, but it probably occurs at the base of the Rukwana hills.

Like the two foregoing it is gregarious, feeding in flocks of as many as 15 or 20 birds. It is shy, and when alarmed I do not know a more noisy bird for its size. I have not obtained nest or eggs. Indigenous.

113. Pomatorhinus melanurus (Legge, B. of C. pl. xxii. fig. 1).

A widely-distributed forest-bird, and found in nearly all the wet forests of the province up to the highest hills. It occurs in the dry-zone forests, but more towards the interior than eastward.

This Ant-Thrush builds in the beginning of the year, selecting mossy banks for building the nest in. The eggs vary in number from two to five, and are pure white in colour, very delicate. Indigenous.

114. Dumetia albogularis (Legge, B. of C. p. 505).

Not an uncommon bird in the Sabaragamuwa Province, but curiously distributed. It is found in the grassy country to the north-east, and extends up to 3000 feet, preferring bush-lands and reedy swamps.

115. Alcippe nigrifrons (Legge, B. of C. p. 507, pl. xxiii. figs. 1, 2).

A common species and widely distributed, but chiefly confined to the wet forests. I have found it in the dry plains as well, but not in abundance.

It builds in bamboo-jungle, and I am inclined to think constructs a number of nests, adopting only one for breeding purposes. The eggs are laid generally from January to March, two, and occasionally three, in number, of a soft white ground-colour, widely spotted over with red-brown dots. In shape the eggs are distinctly "stumpy," being only a little longer than broad. Indigenous.

116. Pellorneum fuscicapillum (Legge, B. of C. p. 509, pl. xxiii. fig. 3).

A common little bird, but owing to its habits rarely seen. I have obtained specimens at 4000 feet, and observed it in the wet forests and waste land on the confines of the north-west. It builds a nest much like that of *Alcippe nigrifrons*, selecting a low bush for the situation. The eggs are two in number, pale soft white and dotted over with brownish-red spots, rather sparingly scattered. Indigenous.

117. Pyctorhis nasalis (Legge, B. of C. p. 512, pl. xxiv. fig. 1).

Not uncommon in swampy lands and abandoned paddi-fields. I have procured it in the grass-lands of the Balangoda district, but have not observed it at higher altitudes than 2500 feet. Indigenous.

118. Elaphrornis palliseri (Legge, B. of C. p. 514, pl. xxiv. fig. 2).

I have obtained this bird only in the "patina"-lands of the Horton Plains at 7000 feet, and in a similar grassy land on the Central-Province side of the dividing range. Peculiar to Ceylon.

119. Orthotomus sutorius (Legge, B. of C. p. 517).

Very common up to 6000 feet.

It breeds in March and on to about November, using generally some broad-leafed plant for its nest to be built in. I have found the nest constructed out of a single leaf of an ornamental caladium, and again out of a number of leaves of the common *Trema orientalis*, and often in cinchona-leaves. The beautiful structure of the nest is too well known to need description here, but I may say that I believe the statement made by the natives that a firefly is often found stuck with mud as a sort of lamp to illuminate the nest is purely an invention, as I have had frequent opportunities of watching the habits of the Tailor-bird and never found indications of fireflies or of mud. The eggs are three or four in number, of a pale greenish-white ground-colour, faintly washed with splashes of dull red, often forming broad patches of colour. The colours fade rapidly, and so fresh eggs unblown look very different from those that have been collected for some time.

120. Prinia socialis (Legge, B. of C. p. 520).

Not uncommon up to 4000 feet. It is often met with in grass-fields and paddi-lands, and not unfrequently in patina-lands.

I have obtained the eggs from a high altitude in a grass-land. They were of a fine terra-cotta colour and very glossy. The breeding-season is generally about the beginning of the S.W. monsoon.

121. Drymœca valida (Legge, B. of C. p. 525, pl. xxv. fig. 2).

A widely-distributed species, affecting the grass-lands of the province at low altitudes. I have found it in swampy lands about Kukulu Korah, the Kuruwiti Korah, and in the drier country towards the North-western Province.

122. Drymœca insularis (Legge, B. of C. p. 529, pl. xxv. fig. 1).

Fairly common in grass-lands and swampy or reedy lands in the province. I have obtained specimens at 3000 feet in the eastern parts of the country towards Uva, and again in the dry zone, where, however, it does not appear to be abundant. It breeds in grass-lands through the greater part of the year, laying four eggs, which are of a beautiful glossy blue, with large blots and blotches of red-brown.

123. Cisticola cursitans (Legge, B. of C. p. 531).

This little Grass-Warbler has about the widest distribution of any bird in the province, being equally common from the tank-country in the dry zone to the cold bleak plains at 7000 feet. It breeds equally at all altitudes, and, I think, twice a year, as its nest may be found in May as well as November. The nest is a beautiful structure, placed close to the ground, and contains three or four eggs, of a white ground-colour faintly tinged with very pale green and dotted with brown spots, that are more or less "zoned" at the broad end.

124. Acrocephalus dumetorum (Legge, B. of C. p. 545).

A rare migrant. I include it with some hesitation, but I have obtained a specimen in the north-east of the province that I think can belong to no other species.

125. Locustella certhiola (Legge, B. of C. p. 548).

I have on three or four occasions met with this bird, and each time in very dense grass-lands or thorny thickets. Its habits are most difficult to watch, owing to its resorting to such impenetrable places and its extreme shyness. It is a winter visitor, arriving at the beginning of the N.E. monsoon.

126. Phylloscopus nitidus (Legge, B. of C. p. 551).

A winter visitor to the country. It ascends to high altitudes during its stay in the country, and inhabits both gardens and plantations alike. At certain seasons, or, I should say, in certain years, it is far more plentiful than at other times, so as to be regarded as absolutely common, and again scarce in other years.

127. Phylloscopus magnirostris (Legge, B. of C. p. 553).

Legge records it from the Horton Plains, but I have no notes of it.

128. Parus atriceps (Legge, B. of C. p. 557).

A common hill species, found from 2500 feet up to the Horton Plains (7000 feet). It is frequently to be found in the gardens of up-country plantations, and by its bright colour and active movements this Titmouse may be very readily distinguished.

It breeds about the beginning of the S.W. monsoon, selecting holes in old trees and sometimes in houses. The nest is beautifully lined with feathers, hair, or cotton, and usually contains four eggs; these are pure chalk-white, finely dotted with purplish-red spots, that are more closely scattered over the broad end.

129. Dendrophila frontalis (Legge, B. of C. p. 560).

This little Nuthatch has a very wide distribution in Sabaragamuwa. It frequents the forests of both dry and wet zones, from the lowest to the highest altitudes. It is generally found in small companies of from five to a dozen birds, and in its habits is strikingly tame and fearless. I have not obtained either nest or eggs.

130. Cinnyris lotenius (Legge, B. of C. p. 563).

This beautiful Sun-bird is fairly abundant in the lower parts of the province up to 2500 feet. It is common in both the dry parts as well as the wet, as I have found it abundantly at Embilipitiyé, where the rainfall is very low, and at Ratnapura, where the opposite state of climate exists. It builds its beautiful nests at the ends of long thin branches, generally close to the ground, and sometimes over water, covering the outside with spider-webs and bits of thin bark. The eggs are usually three in number, of a dull grey ground-colour, closely freckled and spotted with brownish-grey and pepper-brown spots, often confluent at the broad end.

131. Cinnyris asiaticus (Legge, B. of C. p. 566).

A bird of rather local distribution, though it may be found at many widely different altitudes. I have noticed it abundant at Kittulgalla, in the wettest parts of the province, and at Balangoda up to Galagama. It breeds in the province in April and May, constructing its pendulous nest much in the same way as the last-named species. The eggs are often three in number, of a pale greenish-white ground-colour, finely dotted and spotted with brown.

132. Cinnyris zeylonicus (Legge, B. of C. p. 569).

A very abundant species, and much more generally distributed than *C. asiaticus*. It is a common visitor to the gardens of Europeans, both in the hill-country and the lower parts of the province, and is perhaps better known by the incorrect title of the "Humming-bird."

Breeds freely during the north-east monsoon up to the middle of the year. The eggs are usually two in number, and the nest is of the pendulous character of the preceding species.

133. Dicæum minimum (Legge, B. of C. p. 574).

A widely-distributed little bird, but, if anything, it is more abundant in the low country than at the highest altitudes. It is perhaps the chief means of distributing and spreading the growth of our local *Loranthus*, as it feeds on the berries, and deposits the sticky seeds on any branches it may for the moment perch upon.

I have obtained the nests in one of the wettest parts of the province during August, with two eggs. The nest itself is cup-shaped, and very beautifully built in the angle formed by two twigs. The eggs are pure white and faintly dotted over with minute brown dots.

134. PACHYGLOSSA VINCENS (Legge, B. of C. p. 577, pl. xxvi. figs. 1, 2).

This endemic species appears to be more or less confined to the wet forests and places where the rainfall is usually high, thus I have obtained it in Kittulgalla (rainfall 230 inches), Balangoda, the Kukulu Korah, and on the confines of the Galle district, but nowhere have I found it in abundance.

I know nothing of its nidification.

135. ZOSTEROPS PALPEBROSA (Legge, B. of C. p. 582).

Very common up to 2500 feet, after which it is scarcely seen. It appears to follow the damp parts of the province closely, as directly the intermediate rainfall district is passed and the dry zone is reached it becomes very scarce.

It nests in the S.W. monsoon months. The eggs are two, and sometimes three, in number, pale greenish blue, delicate in structure, and easily broken.

136. ZOSTEROPS CEYLONENSIS (Legge, B. of C. p. 585, pl. xxvi. fig. 3).

This species appears to begin exactly where the last-mentioned leaves off, in the hill-country. There it is found from 2500 feet to the top of the highest hills, and apparently with equal abundance. In the cold wet forests at the base of the cone of Adam's Peak this little bird's note is often the only sound to be heard, as the bleakness of the hills at this altitude drives back most bird-life to the warmer valleys under 5000 feet.

It breeds in the early part of the year, generally about

March and April. The nest is a beautiful structure, composed of fine mosses and thin roots. The eggs are pale blue and three in number.

137. Hirundo rustica (Legge, B. of C. p. 587).

A migratory species, arriving in September and becoming exceedingly abundant soon after arrival, departing late in March and up sometimes as far as the middle of April. During the course of the arrival-period birds in all stages of dress will be found, from the most perfect bluish black to a faded brown-black. I know of no instance of the bird breeding in the island.

138. Hirundo hyperythra (Legge, B. of C. p. 592, pl. xxvii. fig. 1).

Very abundant in all the moist parts of the province from 100 feet to 3000, but rarely found above that altitude. It is particularly abundant in the Ratnapura country and all through the Kegalla district, and especially at Ambepussa, where it was first discovered nearly 50 years ago by Layard.

I have repeatedly found its nests both in caves as well as in dwellings, one of the last instances I noted being a nest built in the Government Agent's Residency at Ratnapura. The eggs are pure white and nearly always two in number. Endemic.

139. Hirundo javanica (Legge, B. of C. p. 597).

Chiefly confined to the high hills from 2000 feet and upwards, where it becomes very common and is generally known to the Europeans as the "Bungalow Swallow," owing to its frequently nesting in houses. I have for some years watched the nidification of this interesting species, and have found that a pair will not only return to the same nest for a second breeding-season, but will repeat the operation more than twice, so long as the nest is not damaged. I would call attention to a remarkable instance of intelligence in animals that I recorded in 'Nature' (22nd July, 1886, p. 265), in which a pair of these Swallows constructed a nest on the top of a hanging lamp. The intelligence was displayed by their placing their dome-like structure over the pulleys by which the lamp was raised or depressed for lighting purposes, so that the chains could travel over the enclosed wheels without damage to the nest itself! I might further add that, notwithstanding that the lamp was in nightly use, the young birds were successfully reared, after which the nest was removed, owing to the inconvenience occasioned by its occupants.

The building-season is generally from April to June, the birds laying three broad eggs of a pale white colour, closely spotted over with warm brown or reddish-brown spots and blotches.

140. Passer domesticus (Legge, B. of C. p. 600).

Abundant all through the province where there are human habitations. It is known to the natives of the country as the "Gewal kooroola," or *house*-bird, and equally the Tamils from South India, who form the chief labouring class of the island, call our Sparrow "Ootoo kooroovic," or *home*-bird.

I am unable to assign any particular season as the breeding-season, and I am equally unable to give a typical example of the colouring of egg.

141. Motacilla melanope (Legge, B. of C. p. 610).

A typical migrant to the country during the north-east monsoon. For years I have noted the arrival of this species to take place within the first ten days of September, and during the time of its stay its distribution extends from the lowest to the highest parts of the province. I have found it by the side of some stagnant pool in the wilds of the dry zone, and again following some little stream in the solemn cold forests in the Adam's Peak wilderness. At the time of its departure I have two or three times found a large party of these active little Wagtails congregating on the roof of a house or in the branches of some solitary tree, but their departure, which is in March and up to the beginning of April, is much more gradual than the arrival.

I have not taken the nest, and am unable to record any instance of local nidification.

142. Limonidromus indicus (Legge, B. of C. p. 614).

This little Wagtail, like the preceding, is a north-east monsoon visitor to Ceylon. It arrives in October and sometimes later, and is distributed sparingly; thus it is rare above 3000 feet altitude, but is about equally plentiful at the foot of the main hill-ranges to the eastward. It is frequently met with in the driest parts of the dry zone, in dense forest, quite irrespective of the neighbourhood of water or moisture, but in these places I have not procured it in the open bush-land. I know nothing of its nidification.

143. Budytes viridis (Legge, B. of C. p. 617).

A north-east migrant, arriving in the province towards the end of September, and confined to the dry zone on the east. I have found it in the greatest abundance at Embilipitiyé, where that portion of the tank is silted up and affords a sort of meadow, and in all like situations. I can give no particulars of its nidification.

144. Corydalla rufula (Legge, B. of C. p. 625).

A common resident species and widely distributed. More abundant on patina-lands, from which it has been called the "Patina Lark."

It breeds at the beginning of the S.W. monsoon, selecting the ground or some small tuft of grass for its place of nesting. The eggs are three in number, dull brownish stone-colour, blotched over with broad markings of red-brown or dull chocolate-brown.

145. Alauda gulgula (Legge, B. of C. p. 630).

I include this species with some hesitation, as I have met with it only on the confines of the province on the south-east.

146. Pyrrhulauda grisea (Legge, B. of C. p. 637).

I have only once met with this little Lark, when I found a small flock of them in the very driest part of the province towards Hambantotta.

147. Ploceus philippinus (Legge, B. of C. p. 641).

A very common low-country species, frequenting more particularly the dry parts of the province. It has, since 1879, advanced its distribution in the province. In the year I refer to these Weaver-birds were not known as nesting to the west of Balangoda, but are now to be found several miles to the west of this point and at 2500 feet altitude. They breed from the end of April through the S.W. monsoon, selecting solitary fields, generally in the neighbourhood of rice-fields. The eggs are three, and often four, in number, of a pure white colour.

148. Munia kelaarti (Legge, B. of C. p. 650, pl. xxvii. fig. 2).

A very abundant little bird above 1500 feet, below which I have not often met with it, but it might readily be overlooked among many of the Bunting tribe in the province.

It breeds in the S.W. monsoon, often constructing its nest in fruit-trees on the tea-estates in the hills. The eggs are pure white, and rather pointed in shape. I have found as many as four eggs in one nest, but the usual number is two. Endemic.

149. Munia malacca (Legge, B. of C. p. 652).

This bird has a curious distribution in the province. I have, as recorded by Legge, found it in the Wallaway valley and in the tank-country towards the foot of the hills. Again, I have obtained it in the grass-lands at Gallagama and up as high as the Horton Plains. I have no authentic instance of its nidification in the province.

150. Munia punctulata (Legge, B. of C. p. 656).

The Spotted Bunting is very generally distributed through the lower parts of the province. In the Kegalla district it is more abundant towards the foot of the Kandyan hills, where it frequents paddy- (rice-) fields in flocks. It breeds nearly all the year round, selecting for the purpose solitary trees that are more or less densely branched. The eggs are generally four in number.

151. Munia striata (Legge, B. of C. p. 660).

I have found this bird in fair abundance throughout the province, except in the very dry and very wet districts. It breeds at 3000 feet, often selecting orange-trees for the spot in which its nest is to be built. I have taken four eggs at a time, and in the Central Province I have found it laying six eggs.

152. MUNIA MALABARICA (Legge, B. of C. p. 662).

Occasionally found in the province, but more towards the confines of the dry zone to the north-east and towards the foot of the Kandyan hills. I have found no eggs.

153. ARTAMUS FUSCUS (Legge, B. of C. p. 666).

One of the commonest birds, but chiefly confined to altitudes of 2000 feet and downward. It prefers open country, and particularly rice-fields, where its manner of taking its prey on the wing is probably the cause of its being called by the same name as the Swift and Swallow by the natives. It is a resident species.

154. ACRIDOTHERES MELANOSTERNUS (Legge, B. of C. p. 670).

Widely distributed up to 4000 feet elevation, and a favourite cage-bird with both natives and Europeans.

Breeds early in the year, following to a great extent the manner of the Woodpeckers in its nesting-habits. The eggs are generally three in number, nearly an inch in length, and of a most beautiful pale blue colour, quite free from any spots or blotches, but not always clean. Endemic (*Legge*)? A series of adult birds from both wet and dry districts indicate variation in colour to a considerable extent, those from the wet Kittulgalla district being two or three shades darker than examples from the Kolonna Korah, our driest division.

155. STURNORNIS SENEX (Legge, B. of C. p. 680, pl. xxviii.).

This rare Starling is strictly a forest species. I have found it in Balangoda, Bamberabolowa, and Eratue, all three wet districts at the foot of the main mountain-zone. This species, like the foregoing, is gregarious in its habits, but the flocks of birds rarely exceed ten or a dozen in number.

I am indebted to Mr. George W. Jenkins for having obtained the eggs of *Sturnornis senex.* The nest was placed in a tall forest-tree, in a rotten cavity of the stem, and rudely lined with dry leaves of some monocotyledonous plant. The eggs were two in number and of a pale, delicate, spotless blue colour. Endemic.

156. EULABES RELIGIOSA (Legge, B. of C. p. 682).

A curiously-distributed Mynah, and chiefly restricted to the wet districts. I have met with it in all the region at the foot of the main hill-range from Kittulgalla to Balangoda, thus embracing the wettest part of Ceylon, but for some remarkable reason it is absent in parts of the Kukulu Korah, where the rainfall is distressingly excessive. I have traced it on the borders of the dry country on the north-west and south-west extremes of the province, where it is abundant.

I have not obtained the eggs, though nests have been repeatedly pointed out to me by the natives, who are fond of caging this bird.

157. EULABES PTILOGENYS (Legge, B. of C. p. 685, pl. xxix.).

This Mynah appears to take the place in the hill-country that *E. religiosa* does in the lower altitudes. It is widely distributed, and to be found nearly all over the wet districts of the province, but more abundantly in the hills. It breeds in the S.W. monsoon months, placing its nest in hollows of rotten trees. The eggs are two in number, broad oval, and of a pale blue colour faintly tinted with a greenish shade, with spots or blotches sparingly spattered over, of a greyish-brown tint. Endemic.

158. PITTA CORONATA (Legge, B. of C. p. 687).

A typical migrant, arriving in September soon after the Wagtails. During its visit to the country it is to be found in abundance up to 3000 feet altitude, and is so familiar to the natives as to enjoy a specific name. It is frequently snared by the Singalese, but cannot be reared in captivity.

COLUMBÆ.

159. Palumbus torringtoniæ (Legge, B. of C. p. 693, pl. xxx.).

Locally distributed in Sabaragamuwa, and chiefly confined to the hills, though not uncommon in the neighbourhood of the dry zone when certain laurels are in fruit, these magnificent Pigeons then becoming suddenly abundant. Though an endemic species, I have never obtained the eggs.

160. Turtur suratensis (Legge, B. of C. p. 705).

The commonest Dove of the country, and to be found in both wet and dry districts up to 3000 feet. The "Alu-Korbeyo" of the Singalese form quite a feature of the bird-life of the rice-fields, more especially in the dry districts, where at the end of the rice-harvest they may be found in thousands. The breeding-season is from the end of February, but it is not unusual to find nests in December. The nest is of the crudest construction and placed in any situation, from a low bush to a depression on the bough of a tree. The eggs are two in number, pure white and very glossy.

161. Chalcophaps indica (Legge, B. of C. p. 714).

The Bronze-winged Dove is perhaps the best known of the Ceylonese Columbæ. It is to be found in all the wet forest-lands of the province right down to the borders of the dry zone and up to the Horton Plains, but at high altitudes it is not so plentiful. I am uncertain as to the correct breeding-season of the species, as I have found it nesting in both monsoons. The eggs are two in number and pure white in colour.

162. Carpophaga ænea (Legge, B. of C. p. 718).

This splendid Fruit-Pigeon has a curious distribution in the Sabaragamuwa Province, as it is found in both the very wet as well as in very dry parts of it. I have found it up the valley of Kaluganga river, the Wallaway river, the Kalani river, and the Maha Oya stream, but it is met with in greatest abundance in the Kolonna Korah, where it is often to be found in large flocks. I have questioned many natives on the nidification of this well-known Pigeon, but beyond a vague statement that it nests on the tops of very high trees, Ia m unable to give any satisfactory evidence.

163. Osmotreron bicincta (Legge, B. of C. p. 725).

Confined to the south-eastern part of the province, where I have found it only sparingly. I came upon it in abundance on the banks of the Wallaway river at Ridiyagama, but not to the northward.

164. Osmotreron pompadora (Legge, B. of C. p. 728).

The common "Green Pigeon" of the country. It is common all over the province up to 2500 feet.

I obtained a single nest taken in the Gillimali valley, but the young had been hatched. The nest was particularly small for so large a bird, and lined with soft spongy moss.

GALLINÆ.

165. Pavo cristatus (Legge, B. of C. p. 731).

The Peacock—the "Monara" of the Singalese—is purely a dry-country bird in the province. In the Kukulu Korah it is said by the natives to have at one time been common, and up to 1893 I know a solitary male bird to have lived in one of the forests within the wet-zone area, but I am not able to record evidence of distribution outside the dry belt adjoining the Southern Province. I have not taken the eggs myself, but have repeatedly seen chicks that had been captured by the natives.

166. Gallus lafayetti (Legge, B. of C. p. 736, pls. xxxi. & xxxii.).

This magnificent bird is known all over the province in both wet and dry zones, but is more abundant in the latter than in the former areas, as a general rule. During the period when the "Nillo"—a *Strobilanthus*—is in seed the Jungle-fowls become very abundant, and hundreds of them are shot down in the hill-country. In one district I can remember seeing the Jungle-fowls being put up right out in the middle of the estates and away from forest.

The question of the crossing of this species with the domestic fowl is undoubted, as I have myself seen a splendid hybrid cock bird, but, owing to his extreme pugnacity, I obtained no satisfactory proof of further offspring being attributed to him. According to native testimony, the Jungle-fowl in the villages adjoining the wild forests freely mix with the domestic birds.

The breeding-season cannot, I think, be confined to any particular time, as I have taken the eggs in both monsoons, and on one occasion I took as many as six from a single nest. The colour is a soft brownish stone, and in some faintly pinkish, finely marked with dots and spots of brown. Endemic.

167. GALLOPERDIX BICALCARATA (Legge, B. of C. p. 741, pl. xxxiii.).

This handsome "Partridge" is very generally distributed over the entire province wherever there is bush or forest cover. It is an exceedingly shy bird, and therefore far more frequently heard than seen, as it very rarely ventures into the open and runs the moment it is alarmed.

It breeds during the latter part of the north-east monsoon and well into the opposite one. The eggs are laid on the bare ground, usually by the side of some fallen tree or other like cover, and are from two to four in number (I have often taken four), of a fine cream-colour, with white specks of no very uniform distribution over the surface. The species is confined to Ceylon.

XLVI.—*A List of the Birds collected by Mr. Alfred Sharpe, C.B., in Nyasaland.* By Captain G. E. SHELLEY, F.Z.S. *With Prefatory Remarks by* P. L. SCLATER, M.A., Ph.D., F.R.S.

I. INTRODUCTION. By P. L. S.

ON succeeding to the Governorship of the Protectorate of Nyasaland, Mr. Alfred Sharpe resolved to continue the scientific investigations so long and so successfully carried on by Sir Harry Johnston, his predecessor in office, and besides other objects of much interest*, has from time to time transmitted to me several collections of birds, containing altogether 329 specimens. Of these Capt. Shelley, as in the case of Sir Harry Johnston's collections, has kindly undertaken the determinations, and, as will be seen by the subjoined list, has referred them to 167 species. Of these species 23 are now recorded for the first time as belonging to the avifauna of Nyasaland, and two are new to science.

Mr. Sharpe, who is now in England, taking a well-earned rest, has kindly supplied me with the following notes on the localities where these birds were collected:—

Chiradzulu.—A high mountain between Zomba and Blantyre rising to 6000 feet above the sea-level, with steep, rocky sides, and the usual brush at the foot. The plains at the foot are about 2800 feet above the sea-level.

Fort Hill.—The northernmost station in the Protectorate of British Central Africa. It is three days' journey N.E. of Karonga, on the so-called "Stevenson Road" from Nyasa to Tanganyika. It is 5000 feet above the sea, cold and windy. Being just on the water-parting, it has no large streams.

Karonga.—A station at the north end of Lake Nyasa, on the lake-shore.

Kasungu.—This place lies 5000 feet above sea-level, 60 miles to the west of Lake Nyasa. It is bleak and cold.

Kotakota.—A station on the west shore of Lake Nyasa, on the lake-level. An important starting-point for transport to places on the west of the lake.

Likwenu River.—A stream on the road from Zomba to the Upper Shiré River, about 18 miles from Zomba.

Lufira River.—A stream on the "Stevenson Road," about 35 miles from Karonga (north end of Nyasa).

Mtondwe River.—A stream in the plains lying between Zomba and Milanji. The elevation is from 2000 to 2500 feet. The banks of the streams are thickly wooded. Away from the banks there is the usual sparse bush.

Mwanza.—A river running into the Shiré River (on the right bank). This is the only district in B. C. A. in which the Inyala (*Tragelaphus angasi*) has been found.

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* See Mr. Thomas's paper on the Mammals obtained by Mr. Sharpe, Proc. Zool. Soc. 1898, p. 391.

Namaramba Lake.—A long narrow lake at the source of the Lujenda River, 1750 feet above the sea-level. There is much game here. It has a hot and dry climate, with a small rainfall.

Nkata.—An administration station on the west shore of Lake Nyasa, 30 miles north of Bandawe. It has a moister climate than any part of Lake Nyasa, and the rainfall is distributed more equally throughout the year. It was 85 inches last year.

Palombe River.—This river runs through Zomba and the Milanji plains into Lake Shirwa.

Shirwa Lake.—A marshy, ill-smelling, hot lake, lying about 12 miles east of Zomba, about 1800 feet above the sea. Great quantities of birds of all kinds are found here. The lake, which has no great depth of water, swarms with mosquitos. There are several rocky islands, on one of which are large deposits of Iceland-spar.

Songwe River.—A river which forms part of the Anglo-German boundary between Nyasa and Tanganyika. It is a sluggish stream, thickly overgrown with jungly growth. Its elevation is from 2000 to 2500 feet.

II. List of the Collection, with Localities and References to 'The Birds of Africa.' By G. E. S.

Name.	Reference to Shelley's B. of Afr.	Localities.
	Page	
1. *Chalcomitra gutturalis*	4	Fort Hill.
2. *Anthothreptes longuemarii* ..	6	Mtondwe.
3. *Parus insignis*	9	Tanganyika Plateau and Songwe.
4. *Motacilla longicauda*	11	Mtondwe.
5. *Anthus rufulus*	12	Songwe.
6. *Macronyx croceus*	13	Mtondwe and Kasungu.
7. *Mirafra fischeri*............	15	Songwe.
8. *Emberiza orientalis*	18	Chiradzulu.
9. *Serinus scotops*	22	
10. *Hypochera funerea*	23	Lake Shirwa.

Name.	Reference to Shelley's B. of Afr.	Localities.
	Page	
11. *Vidua paradisea*	23	Lake Namaramba, Mtondwe, and Chiradzulu.
12. *Pyromelana flammiceps*	25	Mtondwe.
13. —— *taha*	25	Palombe.
14. *Cryptospiza australis*	. .	Chiradzulu.
15. *Spermestes fringilloides*	28	Mtondwe.
16. *Granatina angolensis*	29	Lake Shirwa.
17. *Pytelia afra*	32	Songwe and Kasungu.
18. *Amblyospiza albifrons*	33	Nkata.
19. *Sycobrotus stictifrons*	37	Mtondwe.
*20. *Otyphantes sharpii*, sp. nov...	. .	
21. *Hyphantornis bertrandi*	39	Zomba.
22. —— *cabanisi*	39	Palombe.
23. *Oriolus notatus*	41	Mwanza, Lake Shirwa, and Tanganyika Plateau.
24. —— *larvatus*	41	Lake Shirwa and Mwanza.
25. *Pholidauges verreauxi*	42	Tanganyika Plateau, Songwe, and Fort Hill.
26. *Lamprotornis mevesi*...	42	Upper Shiré.
27. *Lamprocolius sycobius*	43	Likwenu.
*28. *Amydrus nyasæ*, sp. nov. ..	. .	
29. —— *morio*	44	Zomba.
30. *Dilophus carunculatus*	46	Palombe and Likwenu.
31. *Dicrurus afer*	47	Kasungu.
32. *Prionops talacoma*	49	Mwanza.
33. *Sigmodus tricolor*	49	Chiradzulu.
34. *Campophaga nigra*	50	Likwenu, Tanganyika Plateau.
35. *Graucalus pectoralis*	50	Songwe.
36. *Fiscus collaris*	51	Songwe and Karonga.
37. *Laniarius mosambicus*	53	
*38. —— *nigerrimus*	54	
39. *Dryoscopus cubla*	55	Likwenu and Zomba.
40. *Telephonus senegalus*........	55	Mwanza and Karonga.
41. *Malaconotus sulphureipectus* .	56	Mtondwe.
42. —— *blanchoti*	57	Likwenu.
43. *Crateropus kirki*	58	Likwenu, Palombe, and Songwe.
44. *Criniger placidus*	62	Zomba.
45. —— *olivaceiceps*	. .	Chiradzulu.
46. *Phyllostrophus capensis*......	65	Mwanza.
47. *Cisticola strangii*	74	Kasungu.
*48. —— *subruficapilla*	74	Zomba.
49. *Sylvia simplex*	81	Nkata.
50. *Cossypha caffra*	84	Zomba.
51. —— *heuglini*	84	Mtondwe, Tanganyika Plateau, and Lake Shirwa.
52. *Pratincola torquata*	86	Kasungu and Zomba.
53. *Turdus libonianus*	88	Mtondwe, Chiradzulu, and Fort Hill.
54. *Saxicola livingstonii*	90	Palombe and Songwe.
55. *Thamnolæa subrufipennis* ..	92	Zomba.
56. *Muscicapa cærulescens*	94	Mtondwe.

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* The names of the 23 species new to the avifauna of Nyasaland are indicated by asterisks (*).

Name.	Reference to Shelley's B. of Afr.	Localities.
	Page	
57. *Smithornis capensis*	96	Mtondwe and Fort Hill.
*58. *Bias musicus*	96	Mwanga.
59. *Pachyprora dimorpha*	98	Kombi and Fort Hill.
60. *Terpsiphone perspicillata*	99	Kasungu.
*61. *Hirundo smithi*	102	Mtondwe.
*62. —— *monteiri*	103	Mwanza.
63. *Caprimulgus fossii*	107	Mtondwe.
64. *Cosmetornis vexillarius*	107	Songwe, Nkata, and Karonga.
65. *Hapaloderma narina*	108	Karonga.
66. —— *vittatum*	108	
67. *Coracias caudatus*	109	Mwanza, Lake Shirwa, and Songwe.
68. *Eurystomus afer*	109	
69. *Melittophagus meridionalis*	110	Mtondwe.
70. —— *bullockoides*	111	Lake Shirwa.
*71. *Merops boehmi*	111	,, ,,
72. —— *superciliosus*	111	Karonga and Fort Hill.
73. —— *natalensis*	111	Zomba.
74. *Irrisor viridis*	112	Mtondwe.
75. *Rhinopomastus cyanomelas*	113	Likwenu.
76. *Bycanistes buccinator*	113	Mwanza.
77. *Lophoceros epirhinus*	114	Lake Shirwa and Likwenu River.
78. *Ceryle maxima*	116	Zomba and Karonga.
79. *Alcedo semitorquata*	116	Mtondwe and Tanganyika Plateau.
80. *Halcyon palliventris*	117	Tanganyika Plateau.
81. *Colius striatus*	118	Karonga and Nkata.
82. *Turacus livingstonii*	119	Songwe.
83. *Gallirex chlorochlamys*	120	Mtondwe.
*84. *Gymnoschizorhis leopoldi*	121	Tanganyika Plateau, Fort Hill, and [Songwe.
85. *Schizorhis concolor*	120	Mwanza.
86. *Ceuthmochares australis*	122	Chiradzulu.
87. *Centropus burchelli=natalensis*	123	Karonga.
*88. *Coccystes glandarius*	123	
89. —— *cafer*	123	Mtondwe.
90. *Cuculus solitarius*	124	
91. *Chrysococcyx cupreus*	124	
92. *Indicator variegatus*	125	
93. *Melanobucco melanopterus*	126	
94. —— *zombæ*	126	Mtondwe.
95. *Smilorhis whytii*	128	Chiradzulu and Mtondwe.
96. *Campothera malherbii*	131	Mtondwe.
97. —— *bennetti*	131	Mwanza.
98. *Dendropicus zanzibari*	132	Songwe.
99. *Thripias namaquus*	133	Mtondwe.
100. *Mesopicus griseocephalus*	133	Songwe.
101. *Vinago delalandii*	134	Palombe and Lake Shirwa.
102. *Columba arquatrix*	135	
103. *Turtur semitorquatus*	136	Lake Shirwa.
104. —— *senegalensis*	137	Mwanza.
105. *Chalcopelia afra*	137	Lake Shirwa.

Name.	Reference to Shelley's B. of Afr.	Localities.
	Page	
106. *Œna capensis*	138	Songwe.
107. *Pœocephalus fuscicapillus*	139	Likwenu.
108. *Strix flammea*	141	Songwe.
109. *Syrnium woodfordi*	142	Likwenu.
110. *Glaucidium capense*	142	Zomba.
111. *Scops leucotis*	143	Zomba and Tanganyika Plateau.
112. *Bubo maculosus*	143	Zomba.
113. *Pandion haliaëtus*	144	Lake Namaramba and Karonga.
114. *Falco ruficollis*	145	Lake Namaramba.
115. *Milvus ægyptius*	147	Zomba.
116. *Haliaëtus vocifer*	148	Likwenu.
*117. *Helotarsus leuconotus*	148	Mwanza.
118. *Lophoaëtus occipitalis*	149	Mtondwe.
*119. *Circaëtus fasciolatus*	150	Mwanza.
*120. —— *cinereus*	150	Likwenu.
121. *Asturinula monogrammica*	151	Palombe and Mtondwe.
*122. *Melierax canorus*	151	Lake Namaramba.
123. —— *gabar*	151	Mtondwe and Mwanza.
124. *Circus macrurus*	153	
125. —— *ranivorus*	153	Karonga.
126. *Hagedashia hagedash*	156	Mtondwe.
127. *Herodias ralloides*	156	Lake Shirwa.
128. —— *lucidus*	157	„ „
129. *Ardea melanocephala*	157	Karonga.
130. —— *purpurea*	157	Lake Shirwa and Likwenu.
131. —— *goliath*	157	Lake Shirwa.
132. *Butorides atricapilla*	158	Mtondwe.
*133. *Mycteria senegalensis*	159	
*134. *Tantalus ibis*	160	
135. *Phalacrocorax africanus*	160	Lake Namaramba.
136. *Plotus levaillanti*	161	
137. *Hydrochelidon leucoptera*	162	Lake Namaramba.
138. *Larus cirrhocephalus*	165	Lake Shirwa.
139. *Sarcidiornis melanonota*	170	
*140. *Nettopus auritus*	170	Kotakota.
141. *Dendrocycna viduata*	171	Lake Shirwa.
142. *Anas undulata*	172	
143. *Pœcilonetta erythrorhyncha*	172	Karonga.
144. *Podicipes capensis*	174	
145. *Podica petersi*	175	Mtondwe.
146. *Porphyrio alleni*	175	Kotakota.
147. —— *porphyrio*	175	Lake Shirwa.
148. *Coturnix capensis*	178	Lake Namaramba.
149. *Pternistes humboldti*	179	Lake Shirwa.
150. —— *cranchi*	179	
*151. *Francolinus coqui*	180	Tanganyika Plateau.
152. —— *johnstoni*	182	Lufira River.
153. *Guttera edouardi*	183	Mwanza.
154. *Phyllopezus africanus*	187	Lake Namaramba.
*155. *Stephanibyx coronatus*	188	Songwe.

Name.	Reference to Shelley's B. of Afr.	Localities.
	Page	
*156. *Charadrius asiaticus*	189	
157. —— *pallidus*	189	Karonga.
*158. *Ægialitis hiaticula*	190	"
159. *Oxyechus tricollaris*........	190	Lake Shirwa.
*160. *Arenaria interpres*........	190	
161. *Totanus nebularis*	192	Karonga.
162. —— *hypoleucus*	192	Karonga and Lake Shirwa.
163. *Himantopus himantopus* ..	193	Karonga.
*164. *Œdicnemus vermiculatus* ..	194	Likwenu.
165. *Cursorius temmincki*	194	Songwe.
166. *Rhinoptilus chalcopterus* ..	195	"
167. *Glareola pratincola*	195	

III. DESCRIPTIONS OF THE NEW SPECIES. By G. E. S.

OTYPHANTES SHARPII, sp. nov.

Upper surface entirely olive-yellow and black; under surface entirely bright golden yellow; lores, cheeks, ear-coverts, top and back of head jet-black; the plumage gradually shading off into uniform olive-yellow on the lower back, upper tail-coverts, and tail; the feathers of the upper back and wings being black with broad pale edges of olive-yellow, becoming almost clear yellow on the quills; under wing-coverts and inner margins of the quills yellow: bill black; tarsi and feet pale brown. Total length 6·2 inches, culmen 0·7, wing 3·15, tail 2·6, tarsus 0·95.

Hab. Nyasaland (exact locality unrecorded).

Allied to *Symplectes stuhlmanni,* Reichen. Orn. Monatsb. 1893, p. 29.

AMYDRUS NYASÆ, sp. nov.

Closely allied to *A. caffer* in size, form, and colouring of both sexes when the wings are closed, but differing in the dark under surface of the wings, which is black, with the pale portion uniform deep chestnut both below and above, and the shafts crossing the rufous portion are above brownish black instead of white. Total length, ♂ 9·5, ♀ 9·1 inches; culmen, ♂ 0·85, ♀ 0·8; wing, ♂ 5·3, ♀ 5·15; tail, ♂ 3·9, ♀ 3·8; tarsus, ♂ 1·05, ♀ 1.

Hab. Nyasaland (exact locality unrecorded).

XLVII.—*Field-notes on the Birds of British Guiana.*

By W. L. S. Loat, F.Z.S.

Having long had a desire to see something of bird-life in the Tropics, I left New York for Georgetown, British Guiana, at the end of November of last year, and spent three or four months collecting in the surrounding district.

The best route is by the boats of the Quebec Steamship Company's Line, as they call at the chief islands of the Windward Group, to unload cargo, and thus enable one to spend several hours on shore. When some distance from Georgetown the colour of the ocean changes to a yellowish brown, caused by the enormous amount of fine mud brought down by the Amazons and Orinoco. Even the water of the Essequebo for some distance up from its mouth is likewise discoloured from the same cause. The coast of British Guiana seems to lie very low and is bordered by a line of trees, while every here and there one notices the tall chimneys of the sugar-estates. Several miles from the town, the vessel stops at the lightship to take on board a pilot, as the navigation at this spot is difficult, on account of the mudbanks. The first birds to be noticed as you approach Georgetown are small Gulls (*Larus atricilla*). At the landing-stage the ubiquitous *Pitangus sulphuratus* is seen, with its bright yellow breast and lively manner. This bird and its allies are generally known as the "Kiskadies," owing to the fancied resemblance in their cry to the words "Qu'est-ce qu'il dit?" I have seen this bird take fruit while on the wing, but it generally flies to a perch to eat it. *Pitangus lictor* is also fairly common, while *Myiozetetes cayennensis*, which resembles it in size and plumage, but has a much shorter bill, is rare. The "Grey-headed Tyrant-bird" (*Tyrannus melancholicus*) is also another common species.

The Botanical Gardens at Georgetown, which are of great beauty and extent, are a safe haunt for many species of Tyrannidæ and other birds. There are also two or three examples of the American tapir, kept in a semi-wild state, which have bred once or twice in confinement, the striped appearance of the young being very marked. Mr. Jenman, the Director of the Gardens, is much interested in wild animals of all kinds. The "Scissors-tail" (*Milvulus tyrannus*) is sometimes found in the vicinity of Georgetown.

The black-headed "Carrion-Crow" (*Cathartes atratus*) is one of the commonest birds, both in and around Georgetown, and may be seen circling around in the blue sky high overhead, or perched on the roofs of the houses and markets, and even in the streets, where it will act the part of a scavenger. For this reason these birds are protected by law, though at the present time the sanitary arrangements of Georgetown are so good that their occupation has to a great extent disappeared; nevertheless the law with regard to their preservation has not been repealed. The extensive pastures (the word is used out here to denote the large tracts of more or less marshy ground, in which herds of cattle feed) form a happy hunting-ground for the "Crows," which soon espy a dead animal and immediately flock to the banquet. Having gorged themselves, they rest either on the carcass or on the ground beside it. I have seen as many as forty of them round one animal, many squatting on the grass, like our domestic Duck at home after he has had a good meal. To dissect one of these birds is anything but a pleasant occupation, and the skins retain a most disagreeable smell for months after they have been prepared. Another "Crow" (*Cathartes urubitinga*), with a bare yellowish head, is also found in the colony, and is generally seen singly or in pairs, sweeping with graceful motions, at no great distance from the ground. I have never noticed it in company, or feeding with the other "Crow."

The Herons and their allies are fairly well represented in British Guiana, the Abary and Maharcony Creeks being among their favourite haunts. The pastures are frequented by *Ardea cærulea,* both in the greyish-blue and white stages of plumage. In the latter stage there is always more or less of the greyish-blue colour present, generally at the tips of the chief primaries. I noticed that the greyish-blue birds were more difficult to approach than the rest. I saw one or two specimens of *Ardea egretta* by the side of the Lamaha Canal. The "Chow" (*Butorides cyanurus*) is generally found near trenches and canals. It does not frequent the open marshy grounds, as is the case with *Ardea cærulea*, but seems to be of more retiring habits.

Another common bird of the marshy lands, trenches, and canals is the "Spur-wing" (*Parra jacana*). When approached it generally flies off, uttering its sharp cry, though sometimes it will skulk in the herbage, hoping to evade notice. The enormous length of the toes and claws enables it to run over the leaves of water-lilies and other aquatic herbage with great ease. In a specimen measured, the claw of the first digit was nearly two inches long, and the spread of foot from the tip of the claw of the first digit to tip of claw of third digit about five inches. I obtained three newly-hatched young of this bird, and found that even at this early age the toes and claws were of great length. The under part of the body was entirely white, and the upper part more or less striped with black and different shades of brown not at all unlike the appearance of a young Partridge.

The magnificent Scarlet Ibis (*Eudocimus ruber*) is sometimes seen in large flocks, feeding on the mudflats of the coast. This bird used to be found distributed along the whole coast-line, but has now almost disappeared from certain places. It is still to be found near the mouth of the Corentyn River, which divides British from Dutch Guiana, and occasionally at the mouth of the Berbice, also near the mouths of the Waini and Barima, which are not far from the Orinoco. The difference between the brown plumage of the young and the scarlet of the adult of this Ibis is very remarkable.

The chief breeding-place of several of the Herons is on the Dauntless Bank, an island formed in the mouth of the Essequebo by the silting up of mud upon a schooner which was sunk there some fifty years ago. The island thus formed is now several miles long and nearly a mile wide: it is clothed all round its edge with dense vegetation, but in the middle is more open, with low bushes and swampy ground, forming a secure retreat for a heronry. Until a law was recently passed prohibiting the exportation of plumes, the birds suffered a good deal of persecution from the feather-hunters. The Dauntless Bank is not resorted to for breeding purposes until June or July.

In January last I made a very interesting trip, accompanied by two other men, up the Lamaha Canal, and then up the Hoorabea Creek for some distance, where we camped in a "benah," which is a palm-roofed hut with open sides. Close to us was a forest of eta palms, much frequented by *Ara macuvuana*, for the sake of the fruit. Every night and morning pairs of these Macaws used to fly across the creek to and from their feeding-grounds. We obtained two or three specimens of the small *Ardetta exilis* here in a patch of reedy swamp close to the camp; they allowed of a near approach before taking flight.

While paddling up the Hoorabea Creek we noticed several examples of *Donacobius atricapillus*, the "Babbling Thrush" or "Fantail," as it is sometimes called. There was also a fairly large colony of the Yellow-backed Mocking-bird (*Cassicus persicus*) within a hundred yards of our camp. We did not obtain any of the nests, as the tree from which they hung was swarming with stinging ants; the marabuntas, a species of wasp with a powerful sting, had likewise taken up their abode there. On the Lamaha Canal we found both the nests of the Scarlet-backed Mocking-bird (*Cassicus affinis*) and of *Cassicus persicus*. The two species had chosen two large bushes close to the water's edge, and about twenty yards apart, in which their nests were built. One bough contained three or four nests, all woven close together. Most of the nests of *Cassicus affinis* which we examined contained eggs, three in one nest, two in another, and the rest with a single egg each. The nests of *C. affinis* were much coarser in texture than, and of a different material from, the nests of *C. persicus*. In spite of the close proximity of the two species, they did not mix or interfere one with another in any way. On the 5th of February I obtained a fine male, a female, and nests of the "Bunyar" (*Ostinops* *decumanus*). The male was nearly six inches longer than the female, and in many of the allied species the difference between the sexes is also very noticeable. Their nests were attached to the ends of the leaves of some coconut-palms, in a retired spot, and were nearly three feet long, made of dried grasses, &c., beautifully woven together. The attachment of the nest to the leaf was very securely made, being continued for more than two feet up from the tip. One nest contained a single young bird almost fully fledged. These "Bunyars" are very partial to the mango and other fruits, often doing a good deal of damage. They are much more shy than most of the other Icteridæ, and generally hang their nests in places difficult of access.

The "Reed-bird" (*Agelæus icterocephalus*) may often be seen here in flocks of twenty to thirty among the reeds where they build their nests. The bright yellow head of the male is in striking contrast to the rest of its black plumage. The "Robin" (*Leistes guianensis*) is common in the fields and pastures of the colony. It has a peculiar habit of flying up into the air to the height of about twenty-five feet; then, drawing its wings close to its side, it shoots obliquely downward, uttering a loud chirping kind of song, whether done from exuberance of spirits or to charm its mate, which is generally somewhere near, I cannot say. The crimson breast of an adult male is of a most beautiful tint, and is well shown when he performs this aerial movement. Another common bird of the colony is the Yellow Plantain-bird (*Icterus xanthornus*), which builds a small hanging nest. The "Blackbird" (a species of *Quiscalus*) is also very common. One generally sees a dozen or so of them about the mule- and cattle-sheds on the sugar-estates, and also in the pastures. The peculiar formation of the tail of the male of this bird is well shown when it is flying. It has the appearance of being placed almost at right angles to the long axis of the body. This species, and many others which obtain most of their food on the ground, are very often infested about the face with numbers of minute red insects, known as "bête rouge" in the colony. The irritation set up by these creatures if they happen to get on to one's skin is very great, but the application of a little oil soon alleviates it. If you walk through the high grass, or sit down on bare ground, you are almost certain to take home several of these minute pests, but they do not seem to irritate birds in the same way as they do the human species.

The Hawks and their allies are very well represented in British Guiana. One of the commonest is *Asturina magnirostris,* and you can often recognize the presence of these birds by the peculiar kind of whistling they make. The Barred Crab-Hawk (*Buteogallus æquinoctialis*), the food of which consists chiefly of lizards and crabs, is fairly abundant. The mud outside the sea-dam is simply honeycombed by crabs, affording an unlimited food-supply for this species. The trees along the rivers and creeks are the favourite haunts of other species of Hawks, such as *Tinnunculus isabellinus, Ictinia plumbea, Ibycter ater,* and *Urubitinga zonura.* The beautiful Swallow-tailed Kite (*Elanoides furcatus*) is also found in the colony. Specimens of *Gampsonyx swainsoni* were obtained by Messrs. Quelch, MacConnell, and Lloyd on their "Savannah Trip" to Roraima in 1894. The Island of Wakenaam, at the mouth of the Essequebo, is a splendid locality for Hawks, a great number of the species found in different parts of the colony having been obtained on this island. But such birds as the Harpy (*Thrasaëtus harpyia*) and the King Vulture (*Gypagus papa*) are obtained only in the interior. On Wakenaam I procured a specimen of a pretty little Hobby (*Hypotriorchis rufigularis*) ; it was sitting on the bough of a dead tree near the water.

The Trumpet-bird (*Psophia crepitans*), found in the interior, is easily domesticated. A gentleman I know kept several as pets ; they would come when called, and much enjoyed having their heads scratched. At the same time he would imitate the sound emitted by these birds, and they immediately started the peculiar rumbling noise, whence their name. Whether they did it from force of example, or from pleasure, it would be hard to tell.

The trip from Georgetown to Bartica up the Essequebo is full of interest; not so much in the way of bird-life, for which one must go higher up, but for the variety of trees, creepers, and shrubs with which the banks of the river are clothed down to the water's edge. Bartica, the depôt for the principal goldfields, is situated at the junction of the Mazaruni and Essequebo. Several miles from the mouth you see wooden erections placed in the water to mark the course. Upon these one or two Scissor-bills (*Rhynchops melanura*) are nearly always to be found resting.

In the forest round Bartica I obtained the Red-billed Cuckoo (*Piaya melanogaster*) and the Brown Cuckoo (*Piaya cayana*). The way in which a specimen of the latter bird managed its long tail, while hopping about in the thick trees overhead, was wonderful: it fell wounded into some dense undergrowth, through which it slipped with the greatest ease, so that I nearly lost it.

In December I obtained a specimen of *Coccyzus minor*, but in a very worn state of plumage, especially as regards the ends of the rectrices. On Wakenaam I shot an example of the Spotted Cuckoo (*Diplopterus nævius*) or "My-wife-sick," as it is sometimes called on account of its cry, which is supposed to resemble those words. This bird generally frequents low bushes. The "Old Witch" (*Crotophaga ani*) is found nearly everywhere. One may often see half-a-dozen of these birds all sitting close together on the same bush; they are also fond of skulking in the long grass, and when walking along you may be close upon them before they move. *Crotophaga major* is far less common and much more wary; the beautiful bluish iridescent colour of the back and wings makes this a handsome bird in spite of its peculiar bill. I saw a flock of about fifty of these birds in some trees bordering the Lamaha Canal, but most of them kept well out of range of the gun.

In a clearing in the forest I obtained an example of the White-rumped Barbet (*Chelidoptera tenebrosa*). It generally settles on some prominent object, such as a stump or the topmost twig of a branch of a dead tree, from which it makes short flights, reminding one of our Spotted Flycatcher.

When at rest its blackish colour, combined with its long and rather pointed wings, gives it the appearance of a Swallow without the elongated tail-feathers. In the same clearing I saw sitting at the very top of a dead tree an example of the Aracari Toucan (*Pteroglossus aracari*), but as I had run short of cartridges he was quite safe, a fact he seemed to be quite aware of.

Two or three days later I shot a young male of the Pompadour Chatterer (*Xipholena pompadora*). It was sitting at the top of a fairly tall tree. The lovely claret-colour of the adult male was just appearing on the crissum and upper breast; the peculiar bristly feathers of the wing of the old bird were wanting. This specimen was obtained on the 21st of December.

Both the "Cashew Sackie" (*Rhamphocœlus jacapa*) and the "Blue Sackie" (*Tanagra episcopus*) have a great fondness for the fruit of the guava; so, too, has the pretty little Tanager (*Calliste cayana*). I found the nest of a "Cashew Sackie" in a tall shrub, containing three eggs. The "Palm Sackie" (*Tanagra palmarum*) is another common British Guiana bird.

The Dendrocolaptidæ or "Woodhewers" are fairly well represented in the Colony, and found in more or less wooded districts. Of Kingfishers, the large species (*Ceryle torquata*) was seen several times up the Lamaha Canal, the Hoorabea Creek, and also on some telegraph-wires which ran along near a trench. *Ceryle inda* and *C. americana* are found on the Mazaruni River.

I obtained examples of only two or three species of Trochilidæ. The Mango Humming-bird (*Lampornis violicauda*) was one of the commonest, though such beautiful species as *Chrysolampis moschitus*, with its ruby head and golden throat, and *Thalurania furcata*, with its emerald chin and purple breast, are found in the colony.

The Speckled Ground-Dove (*Chamæpelia passerina*) is fairly common, and generally to be seen in pairs, running about quickly on the ground. When disturbed they fly for a short distance and then alight; this they repeat several times, and then fly off to a safe distance. The wild fruits attract the Common Pigeon (*Columba rufina*) sometimes in great numbers; they are generally fat and make very good eating.

The Formicariidæ or Ant-Thrushes are fairly well represented in Guiana. In walking through the bush one often comes to a spot where a dozen or more of these birds may be seen hopping and twittering about in an excited manner among the undergrowth, the ground below swarming with ants. The Golden Warbler (*Dendrœca æstiva*) is called the "Canary" in British Guiana, rather on account of its bright yellow colour, I should surmise, than from its song, which is not of the first order.

The Sanderling (*Calidris arenaria*) visits the colony in great numbers. The Spotted Sandpiper (*Tringoides macularius*) frequents the partially-flooded meadows and sides of trenches. The Turnstone (*Strepsilas interpres*) also visits the colony. Some years ago the American Golden Plover (*Charadrius dominicus*) afforded very good shooting, but I was informed that the last few seasons they have not been plentiful.

No remarks on the birds of British Guiana would be complete without reference to that most peculiar bird the *Opisthocomus cristatus,* called variously the "Hoatzin," "Hanna," "Canje Pheasant," and "Stink-bird." I must say that I never found the smell of these birds so bad as I had been led to believe; it reminds one of a rather strong cow-shed. It has been found that on cutting out the crop, as soon as the bird is dead, very little unpleasant odour remains. I obtained all my specimens close to a creek, at the back of Albion Plantation, in the Berbice district. There must have been a score of the birds in a clump of tall thorny bushes, and at the first shot several of them tumbled (I can hardly say they flew) out of the bushes on to the branches of a tree which was growing in the middle of the clump. After a couple more shots they tumbled back again into the bushes for safety. Of the four birds obtained on the 4th of January all were moulting.

The species mentioned in this paper are only a small proportion of those that have been recorded from the colony: see Salvin's list ('The Ibis,' 1885–1886), in which about 620 species are catalogued. To make a representative collection of them would require years of work, but would well repay anyone who had the time and means for carrying it out.

XLVIII.—*On a Collection of Birds from Fort Chiquaqua, Mashonaland.* By J. Lawrence Sowerby. *With Notes by* R. Bowdler Sharpe, LL.D., &c.

(Plate XII. fig. 1.)

[After the suppression of the late rebellion in Mashonaland, Mr. Sowerby was in command of a detachment of the B.S.A. Mounted Police at Fort Chiquaqua, and was able for the first time to study the birds of the district. Very little has been written about the ornithology of Mashonaland: the principal essays on the subject are the following:—

Shelley, G. E.—On a Collection of Birds made by Mr. J. S. Jameson in South-eastern Africa, with Notes by Mr. T. Ayres. Ibis, 1882, pp. 236–265, 349–368, pl. vii.

Marshall, Guy A. K. Notes on a small Collection of Birds from Mashonaland. Ibis, 1896, pp. 241–246.

When it is remembered that, owing to the difficulties of transport, the collector could seldom obtain any shot except pellets of large size, and that Mr. Sowerby's collecting had to be done with a Lee-Metford rifle, the excellent condition of his skins is really wonderful. The new Barbet described below was killed with his rifle, as well as the Honey-Guide, and perhaps the tough skins of these species facilitated their preservation; but it is not given to every young ornithologist to shoot a Hoopoe with a bullet, and then to make a good skin of it.

The principal interest in the present collection consists in the discovery of several species in Mashonaland identical with Angolan forms, such as *Melierax mechowi* and *Monticola* *angolensis*, besides the new Barbet, which also finds its nearest ally in an Angolan species.—R. B. S.]

All the birds in the present collection were obtained in one district, namely at Fort Chiquaqua, which is about 18 miles E.S.E. of Salisbury. I was stationed there from the early part of July to the beginning of November. The country is very broken, and is mostly covered with "mahobohobo"-bush, though in the kopjes other kinds of bush predominate. The country is well watered, and there are many deserted native gardens.

Along the road from Salisbury to Bulawayo the country varies from thick bush to open undulating veldt. West of the Sebakwe River it is mostly open, with very few kopjes, and the "camel-thorn" and "wait-a-bit" are everywhere. There is also less water than in Mashonaland.

1. Heterocorax capensis (Licht.); Sharpe, Cat. B. Brit. Mus. iii. p. 12 (1877).

Very common all over the Salisbury district. When courting, about October, it caws very quickly, flying with a fluttering action of the wings. It is not strictly gregarious, and usually not more than two or three are seen together.

2. Oriolus larvatus Licht.; Shelley, Ibis, 1882, p. 264.

Common in bush-veldt.

3. Buchanga assimilis (Bechst.); Shelley, Ibis, 1882, p. 264; Guy Marshall, Ibis, 1896, p. 245.

Very common. Lives on flies, beetles, &c. The larger beetles it catches in its beak and then transfers them to its foot, after perching, to break them up. A veldt-fire always attracts these birds, and I have seen them almost touching the flames.

4. Anaplectes rubriceps (Sundev.); Sharpe, Cat. B. Brit. Mus. xiii. p. 411 (1890).

Sharpia ayresii Shelley, Ibis, 1882, p. 353, pl. vii. fig. 2.

I saw only one individual.

5. Pyromelana xanthomelæna (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 239 (1890).

Euplectes xanthomelas Shelley, Ibis, 1882, p. 354.

Common. Mostly seen in open country.

6. Prionops talacoma Smith; Shelley, Ibis, 1882, p. 263; Guy Marshall, Ibis, 1896, p. 245.

Common in bush-veldt, both in Nyasaland and Matabeleland. Keeps in small parties of a dozen or so, which fly low and steadily, just out of one's way.

7. Dryoscopus cubla.

Laniarius cubla (Shaw); Shelley, Ibis, 1882, p. 262.

Common. Mostly in low thick tangles in the kopjes.

8. Malaconotus blanchoti.

Laniarius poliocephalus (Licht.); Shelley, Ibis, 1882, p. 261.

Uncommon. I only saw a pair. They were turning over fallen leaves in a dry spruit, like Blackbirds.

9. Telephonus senegalus (L.); Guy Marshall, Ibis, 1896, p. 245.

Telephonus erythropterus (Shaw); Shelley, Ibis, 1882, p. 262.

Common, but rather shy. I found it both in veldt and kopjes.

10. Cinnyris kirki Shelley, Ibis, 1882, p. 256.

Uncommon. I only saw about three or four in the district.

11. Cinnyris gutturalis (L.); Shelley, Ibis, 1882, p. 256; Guy Marshall, Ibis, 1896, p. 243.

Very common in bush-veldt and kopjes, but I never saw them before August 8th. They are very pugnacious.

12. Cinnyris chalybæus (L.); Shelley, Ibis, 1882, p. 256; Guy Marshall, Ibis, 1896, p. 243.

Very common in bushy kopjes.

13. Prinia mystacea (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 193 (1883).

Common in sheltered patches of bush in kopjes. Keeps in small flocks. Very quiet and unobtrusive.

14. MONTICOLA ANGOLENSIS Souza; Shelley, B. Afr. i. p. 89 (1896).

Uncommon in the district. I only saw two. Sits on a dead tree-top or other high perch and flutters slowly but steadily up at the locusts as they fly over, and then takes its capture to the ground to break it up before returning to its perch.

15. PRATINCOLA TORQUATA (L.); Shelley, Ibis, 1882, p. 252.

Fairly common. Habits much like those of our English Stonechat.

16. THAMNOLÆA SUBRUFIPENNIS Reichen.; Guy Marshall, Ibis, 1896, p. 242.

Fairly common in kopjes. Spends a good deal of the day in cracks of the rocks and caves.

[I suspect that the specimen recorded by Captain Shelley from the Shongo River as *T. cinnamomeiventris* (Ibis, 1882, p. 251) was really of the present species.—R. B. S.]

17. PYCNONOTUS LAYARDI Gurney; Shelley, Ibis, 1882, p. 250; Guy Marshall, Ibis, 1896, p. 242.

The commonest bird in the Salisbury district. Frequents kopjes mostly, spending a good part of the heat of the day in cracks and caves. Very cheerful in its ways.

18. COSMETORNIS VEXILLARIUS (Gould); Shelley, Ibis, 1882, p. 240.

Not common. I never saw this bird perch on trees when flushed, and after settling on the ground it always shuffles about for a few seconds, possibly to get the conspicuous wing-feathers arranged.

19. CAPRIMULGUS RUFIGENA Smith; Hartert, Cat. B. Brit. Mus. xvi. p. 532 (1892).

Common in bush-veldt. When disturbed from the ground it often settles lengthwise on branches, like the common English species.

20. MEROPS APIASTER L.; Guy Marshall, Ibis, 1896, p. 241.

Very common in the Salisbury district in the hot season, absent in the dry. Spends most of its time on the wing, constantly uttering a note like that of a House-Martin, but louder and more musical.

21. Dicrocercus hirundineus Licht.; Sharpe, Cat. B. Brit. Mus. xvii. p. 43, pl. i. fig. 1 (1892).

Two specimens were all that I saw.

22. Melittophagus meridionalis Sharpe, Cat. B. Brit. Mus. xvii. p. 45, pl. i. fig. 4 (1892).

Melittophagus pusillus (Müll.); Shelley, Ibis, 1882, p. 243.

Common. Mostly hangs about the foot of the kopjes.

23. Eurystomus afer (Lath.); Shelley, Ibis, 1882, p. 243.

Uncommon. I only saw two, both in bush-veldt.

24. Halcyon chelicutensis (Stanl.); Shelley, Ibis, 1882, p. 244.

Common. Usually in bush, sometimes far from water. Solitary in habits.

25. Upupa africana Bechst.; Shelley, Ibis, 1882, p. 245.

Very common in bush-veldt. The note is loud and flute-like, consisting of two or three syllables like *hoop, hoop, hoop,* the head being bobbed forward at each syllable.

26. Irrisor viridis (Licht.); Salvin, Cat. B. Brit. Mus. xvi. p. 17 (1892).

Irrisor erythrorhynchus Shelley, Ibis, 1882, p. 245.

Seems to be more common than it is, on account of its noisiness. Usually in parties of three or four in the bush-veldt. One begins the concert, and then all join in. The note is something of the same tone as a Magpie's, but runs up and down the scale in a most peculiar and rattle-like manner.

27. Rhinopomastus cyanomelas (V.); Salvin, Cat. B. Brit. Mus. xvi. p. 24 (1892).

Only one specimen seen in the district.

28. Schizorhis concolor (Swains.); Shelley, Ibis, 1882, p. 245.

Scarce in this district, but very common between Salisbury and Bulawayo. Known as the "Go-'way-bird," from its note. Usually seven or eight are together.

29. GALLIREX PORPHYREOLOPHUS (Vig.); Shelley, Cat. B. Brit. Mus. xix. p. 446.

Common in the kopjes, and occasionally seen in the bush where a certain tree grows, bearing the same fruit which the Green Fruit-Pigeons affect.

Sits a great deal in thick trees in the day, every now and then uttering a series of grunting croaks, each note sounding more laboured than the last. It also has some loud flute-like notes, and has a habit of assembling in threes and fours and hopping about and going through some curious antics, keeping close together in the middle of the tree.

30. INDICATOR MAJOR Steph.; Shelley, Cat. B. Brit. Mus. xix. p. 6 (1891).

Common. Mostly found in bush-veldt, but always singly. It hardly ever fails to take one near a bees'-nest; but never, so far as I saw, actually sits down beside the nest. It keeps up a most energetic, fitful chattering all the while, very like that of a squirrel at home.

31. DENDROPICUS CARDINALIS (Gm.); Guy Marshall, Ibis, 1896, p. 242.

Fairly common in bush-veldt in the Salisbury district.

32. POGONORHYNCHUS TORQUATUS (Dum.); Shelley, Ibis, 1882, p. 248; Guy Marshall, Ibis, 1896, p. 242.

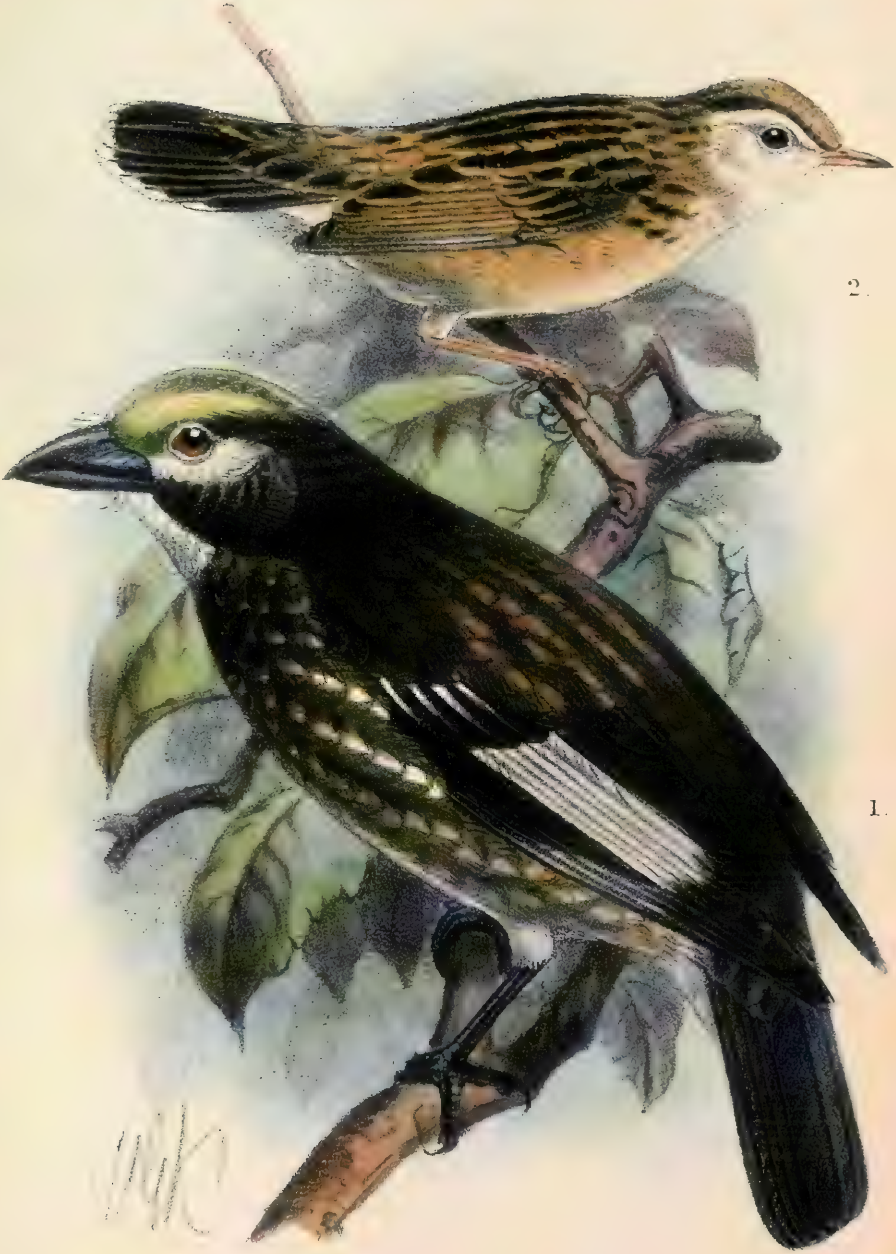
Very common. Note very loud. Frequents bush and kopjes alike.

33. SMILORHIS SOWERBYI. (Plate XII. fig. 1.)

Stactolæma sowerbyi Sharpe, Bull. Brit. Orn. Club, vii. p. xxxvi.

I saw quite half a dozen of this bird at different times, both in kopjes and in the bush-veldt, and was surprised to find that it was a new species.

[This species is, to a certain extent, intermediate between *Stactolæma anchietæ* and *Smilorhis whytii* Shelley. It seems to me that the genera *Stactolæma* and *Smilorhis* cannot be separated on the characters given by Capt. Shelley (Cat. B. Brit. Mus. xix. p. 14), as the nostrils do not appear to be



J. G. Keulemans del et lith.

Mintern Bros imp.

1. SMILORHIS SOWERBYI. 2. CISTICOLA HINDII.

really different, and the bare space round the eye varies in extent. As *Smilorhis* is an older name than *Stactolæma*, the present species may preferably be called *Smilorhis sowerbyi.* It is closely allied to *Smilorhis whytii,* and has the white chin and the white-tipped feathers of the breast and abdomen very distinct. It differs, however, from *S. whytii* in the sulphur-yellow colour of the head, which is like that of *S. anchietæ. S. sowerbyi* has no yellow on the face and throat like *S. anchietæ.*—R. B. S.]

34. Serpentarius secretarius (Scop.); Shelley, Ibis, 1882, p. 237.

This, the only one I saw in Mashonaland, was on some open burnt ground, stalking about at the edge of the bush; its crop contained 13 lizards (of the small flat-headed grey kind) and a big handful of locust debris. I saw five Secretary-birds between Enkeldoorn and Bulawayo along the road. When rising they run about five yards, sometimes from 15 to 20 yards, with raised wings. They flap and sail alternately. When sailing, the ends of the primaries are more upturned than in any other bird I have seen. Secretary-birds are excellent eating!

35. Melierax mechowi Cab.; Reichen. Vög. Deutsch-Ost-Afr. p. 86.

Not very common. This species has a sort of song, which reminded me of the note of a Dabchick at home, but it is shorter and is not uttered so quickly.

36. Melierax gabar (Daud.); Sharpe, Cat. B. Brit. Mus. i. p. 89 (1874).

Common. The flight and manners of this Hawk are just like those of a male Sparrow-Hawk at home.

37. Aquila wahlbergi Sundev.; Shelley, Ibis, 1882, p. 238.

[This is a very curiously-coloured individual, and is evidently, in my opinion, an immature bird, but it differs from all our specimens in the British Museum in being white underneath, with a few arrow-shaped streaks and bars; the upper surface is also mottled with white, all the feathers having very broad white tips; the sides of the face and neck are pure white, and the crown is white streaked with dark brown, with a very evident nuchal crest of pointed brown feathers.—R. B. S.]

38. Circaëtus cinereus V.; Sharpe, Cat. B. Brit. Mus. i. p. 282 (1874).

I only saw three or four of these, all at Chiquaqua. Iris bright orange-yellow. I ate the breast of this Eagle and found it not absolutely bad after many months of "bully-beef."

39. Helotarsus ecaudatus (Daud.); Shelley, Ibis, 1882, p. 238.

I saw the Bateleur at Fort Mandora, 60 or 70 miles S.W. of Salisbury. It was fairly common at Chiquaqua at times. I saw very few in Matabeleland, possibly on account of the country being mostly flat, with few kopjes. It has a loud single scream, something like that of a Great Black-backed Gull, and drops its legs to the full extent at each repetition. It has also a habit of swinging from side to side with first one wing up and then the other, keeping the wings rigid and rather turned up over the back. I have seen them feed on locusts and Guinea-fowl, and I shot a young bird feeding on a dead mule.

40. Asturinula monogrammica (T.); Guy Marshall, Ibis, 1896, p. 241.

Fairly common in bush-veldt.

41. Milvus ægyptius (Gm.); Shelley, Ibis, 1882, p. 238.

Migratory. Entirely absent from Mashonaland from about March to October, so far as I saw. Feeds principally on locusts and such-like insects, which it catches and eats on the wing. The first I saw after their return appeared with the first swarm of locusts. They were very common in November, 1896, in the harbours of the S.E. coast, picking up garbage from the surface of the water.

42. Falco biarmicus Temm.; Shelley, Ibis, 1882, p. 239.

I saw only two or three of these Falcons.

43. CERCHNEIS RUPICOLA (Daud.); Sharpe, Cat. B. Brit. Mus. i. p. 429.

Tinnunculus rupicola Shelley, Ibis, 1882, p. 239.

Very common all over the Salisbury district, living about the kopjes. It feeds much on locusts during the wet season.

[Mr. Sowerby assures me that he is quite certain that this specimen, which is in the full plumage of a male bird, was really a *female*. He made certain of the fact, as he was surprised to find such a difference in the colour of a female bird from that of our Common Kestrel of England, and he therefore took particular note of the sexual organs. From this it would appear that the adult female of *C. rupicola* assumes the plumage of the adult male bird.—R. B. S.]

44. BUBO MACULOSUS (V.); Shelley, Ibis, 1882, p. 239.

Fairly common, for an Owl. I always found them in the bush, not in the kopjes.

45. SYRNIUM WOODFORDI (Smith); Sharpe, Cat. B. Brit. Mus. ii. p. 267 (1875).

I saw only one; it was in a thick evergreen in a kopje, and was being mobbed by small birds.

46. STRIX FLAMMEA L.; Shelley, Ibis, 1882, p. 240.

Sits in caves in the kopjes. I saw three at Chiquaqua.

47. LOBIVANELLUS LATERALIS (Smith); Sharpe, Cat. B. Brit. Mus. xxiv. p. 144 (1894); Shelley, Ibis, 1882, p. 363.

Found in almost any flat near water or swampy ground, but only in the wet season. Flies round one after the manner of the Peewit, uttering a succession of loud notes. Mashona name, "Querri-Querri."

48. VINAGO DELALANDII (Bp.); Salvad. Cat. B. Brit. Mus. xxi. p. 24 (1893).

Treron delalandii, Shelley, Ibis, 1882, p. 358.

This Pigeon appeared suddenly in rather large flocks to feed on the fruit of certain trees. It has a note quite unlike an ordinary Pigeon's, being more of a whistle than a "coo."

XLIX.—*On Birds observed near Machako's Station, in British East Africa.* By Dr. SYDNEY L. HINDE. *With Notes by* R. BOWDLER SHARPE, LL.D.

(Plate XII. fig. 2.)

MACHAKO'S STATION, on the Uganda Road, is situated at the edge of a grassy plain, which stretches for some miles to the westward. The only wood in the neighbourhood consists of single thorn-trees, scattered about at distances of 200 yards. The nearest forest is at Kikuyu, about 45 miles away. On the east side of the station is a valley, at the bottom of which is a stream about 2 feet wide and 3 inches deep. The whole valley is cultivated, and a few patches of rank grass grow in the bed of the stream. On its eastern side the mountains rise abruptly, and some of them are 2000 feet higher than the station, which is 5300 feet above the sea-level.

1. CORVUS SCAPULATUS Daud.; Sharpe, Cat. B. Brit. Mus. iii. p. 22 (1877); id. Ibis, 1891, p. 239.

No. 25, ♀. Machako's, April 28, 1896.

2. CORVULTUR ALBICOLLIS (Lath.); Sharpe, Cat. B. Brit. Mus. iii. p. 24 (1877).

3. COSMOPSARUS REGIUS Reichen.; Sharpe, Ibis, 1891, p. 241.

No. 14, ♀. Machako's, Aug. 23, 1896.

4. SPREO SUPERBUS (Rüpp.); Sharpe, Ibis, 1891, p. 243.

No. 5, ♀. Machako's, April 25, 1896.

Pairs common in stations. Flocks common along the beds of streams. Nests in tree-stumps. Sings well.

5. DILOPHUS CARUNCULATUS (Gm.); Sharpe, Ibis, 1891, p. 243.

a, ♂ ad. Machako's, June 17, 1897.—Bare skin round the eye canary-yellow.

6. Buphaga erythrorhyncha (Stanley); Sharpe, Cat. B. Brit. Mus. xiii. p. 196 (1890); id. Ibis, 1891, p. 243.

a, ♀ ad. Machako's, April 24, 1896.

Flocks common in the stations where there are cattle. If an animal has a sore, the birds dig into it. I have known donkeys killed by the constant irritation caused by their pecking into the sore backs.

7. Buchanga assimilis (Bechst.); Sharpe, Cat. B. Brit. Mus. iii. p. 247 (1877).

No. 72, ♀. Machako's, Aug. 28, 1896.

Very common between the coast and Kibweze. I only saw one or two more specimens at Machako's, and none north at Kikuku.

8. Vidua principalis (L.); Sharpe, Ibis, 1891, p. 244.

No. 19, ♂. Machako's, April 24, 1896.
No. 19, ♂. ,, Dec. 25, 1896.

Flocks common in swamps and reed-beds.

[The black spot on the chin is fully developed in the April bird, but is scarcely visible in the December one, which has plentiful traces of the winter-plumage still remaining.—R. B. S.]

9. Penthetria eques (Hartl.); Sharpe, Ibis, 1891, p. 245.

No. 112, ♂. Machako's, March 10, 1897.

This species is very common. They are usually found in reed-beds, but almost every native village is frequented by at least one pair.

10. Drepanoplectes jacksoni Sharpe, Ibis, 1891, p. 246, pl. v.

a, ♂ ad. Machako's, April 30, 1896.

The males of this species frequently form a playground in the long grass on the plains. The playground made by each bird is circular, about 2 feet in diameter; the grass is beaten quite flat inside the ring, except one tuft in the very centre. A flock of these birds playing has a curious effect, as they jump about 3 feet in the air and drop down again into the circle, each bird jumping from five to ten times in a minute.

11. PLOCEIPASSER MELANORHYNCHUS Rüpp.; Sharpe, Ibis, 1891, p. 250.

No. 45, ♀. Machako's, May 19, 1896.

Common in the neighbourhood of Machako's Station; it probably breeds there.

12. HYPHANTORNIS NIGRICEPS Layard; Sharpe, Ibis, 1891, p. 253.

No. 22, ♂. Machako's, May 17, 1896.

Breeds in the mimosa-trees.

13. HYPHANTORNIS SPEKII Heugl.; Sharpe, Ibis, 1891, p. 254.

No. 22*a*, ♂. Machako's, April 30, 1896.
No. 70, ♀. „ Aug. 17, 1896.
No. 22*a*, ♂. „ Nov. 3, 1896.

Nesting here; very common in flocks.

All these Weaver-birds will build a nest in about a day, but a pair will often build four or five before they get one sufficiently well bound to the branch to support their weight, and in consequence, where 20 or 30 of these birds are building in a single tree, the ground beneath the tree is strewn with nests in every stage of completeness. I have counted as many as 243 nests lying on the ground beneath a single tree.

14. HETERHYPHANTES REICHENOWI (Fischer); Sharpe, Cat. B. xiii. p. 418; id. Ibis, 1891, p. 252.

No. 66, ♂. Machako's, Aug. 10, 1896.

15. PASSER RUFICINCTUS Fischer & Reichen.; Sharpe, Ibis, 1891, p. 256.

No. 47, ♂. Machako's, May 20, 1896.
No. 95, ♂. „ Nov. 11, 1896.

Large numbers breed here in May and June. It is common in the station. Builds sometimes in the eaves of the houses, but more often among the fruit of a banana-bunch or in the head of the wild banana. This banana is cultivated by the Wakamba (natives) for the fibre which it yields.

16. SERINUS FAGANI Sharpe, Bull. Brit. Orn. Club, vi. p. vii (1896).

No. 69, ♀. Machako's, Aug. 17, 1896.

Very common on the dried-up grass-plains, either in pairs or flocks. Its movements and habits when on the ground reminded me of our own Siskin.

[I fancy that this species will turn out to be *Serinus reichenowi* (Salvad.).—R. B. S.]

17. PYRRHULAUDA LEUCOPARÆA Fischer & Reichen. J. f. O. 1884, p. 55.

No. 39, ♂. Machako's, May 3, 1896.

[This species is recorded by Dr. Reichenow from many localities in German East Africa (Vög. Deutsch-Ost-Afr. p. 204). I believe this to be the first record from British East Africa.—R. B. S.]

18. MOTACILLA FLAVA L.; Sharpe, Cat. B. Brit. Mus. x. p. 516, pl. vi. figs. 3–5.

Budytes flavus Reichen. Vög. Deutsch-Ost-Afr. p. 200.

No. 106, ♀ ad. Machako's, Feb. 1, 1897.

Very common.

19. ANTHUS CERVINUS (Pall.); Sharpe, Cat. B. Brit. Mus. x. p. 585 (1885).

No. 113, ♂. Machako's, March 10, 1897.

[This is the most southern winter habitat yet recorded for the species, which has, however, been obtained on the Goolis Mountains in Somaliland by Mr. E. Lort Phillips, and in Shoa by the Italian naturalists.—R. B. S.]

20. ANTHUS RUFULUS (Vieill.); Sharpe, Ibis, 1891, p. 589.

No. 2, ♂ ad. Machako's, April 24, 1896.

21. CINNYRIS KIRKI Shelley; Sharpe, Ibis, 1891, p. 592.]

No. 61, ♀. N'Goleni, near Machako's, Aug. 10, 1896.
No. 65, ♂. Machako's, Aug. 11, 1896.
No. 82, ♂ imm. Machako's, Sept. 5, 1896.

A common species.

22. Cinnyris falkensteini Fischer & Reichen.; Sharpe, Ibis, 1891, p. 594.

No. 67, ♂. Machako's, May 12, 1896.
No. 67 *a*, ad. Machako's, Sept. 3, 1896.

This species also is not rare.

23. Zosterops kirki Shelley; Sharpe, Ibis, 1891, p. 594.

No. 60. ♂. N'Goleni, 7 miles from Machako's, Aug. 7, 1896.
No. 59, ♀. „ „ „ Aug. 10, 1896.

Seen in flocks among the hills, feeding in hundreds on the same tree.

24. Lanius collyrio L.; Gadow, Cat. B. Brit. Mus. viii. p. 286 (1883); Sharpe, Ibis, 1891, p. 595.

No. 16, ♂. Machako's, April 24, 1896.

25. Bradyornis murinus F. & R.; Reichen. Vög. Deutsch-Ost-Afr. p. 152.

No. 64, ♂ ad. N'Goleni, 7 miles from Machako's, Aug. 5, 1896.

Seems to be common on the hill-tops.

[Naiwascha Lake, *teste* Reichenow, *l. c.*—R. B. S.]

26. Pycnonotus layardi Gurney; Reichen. Vög. Deutsch-Ost-Afr. p. 207 (1894).

No. 44, ♀. Machako's, May 16, 1896.

Common everywhere between Mombasa and Kikuyu where there are bushes or trees.

27. Prinia mystacea (Rüpp.); Sharpe, Ibis, 1892, p. 155.

No. 46, ♂. Machako's, May 20, 1896.

Very common between March and June.

28. Cisticola hindii. (Plate XII. fig. 2.)

Cisticola hindii Sharpe, Bull. Brit. Orn. Club, vi. p. vii (1896).

This little bird lives in the short grass-plains. It soars into the air, making a peculiar clicking note. This "click" is audible after the bird has soared so high as to be invisible.

[It is interesting to compare the habits of this species with those of its near ally *C. terrestris* of South Africa, as given by Major Bulger. *Cf.* Sharpe, ed. Layard, B. S. Afr. p. 276.—R. B. S.]

29. MONTICOLA SAXATILIS (L.); Sharpe, Ibis, 1892, p. 161.

No. 101, ♀ imm. Machako's, Jan. 1, 1897.
No. 103, ♀ imm. „ Jan. 30, 1897.

Arrived here in the beginning of December; very common till February.

30. SAXICOLA ŒNANTHE (L.); Sharpe, Ibis, 1892, p. 162.

No. 105, ♂ ad. Machako's, Feb. 1, 1897.
No. 114, ♂ ad. „ Feb. 23, 1897.

Arrived in December and left in March.

31. SAXICOLA MORIO Licht.; Sharpe, Ibis, 1892, p. 162.

No. 104, ♀ ad. Machako's, Jan. 30, 1897.

Arrived here in December and left in March.

32. BATIS MOLITOR.

Pachyprora molitor (Hahn & Küst.); Sharpe, Ibis, 1892, p. 302.

No. 80, ad. Machako's, August, 1896.

Two flocks seen.

33. ALSEONAX MURINA F. & R.; Sharpe, Ibis, 1892, p. 300.

No. 81, ad. Machako's, Sept. 3, 1896.

34. DIOPTRORNIS FISCHERI F. & R.; Sharpe, Ibis, 1892, p. 300.

No. 62, ad. N'Goleni, 7 miles from Machako's, Aug. 10, 1896.

Seems to be common on the hill-tops.

35. COCCYSTES JACOBINUS Bodd.; Shelley, Cat. B. Brit. Mus. xix. p. 217 (1891).

No. 111, ♂ imm. Machako's, March 10, 1897.

Fairly common. I believe that it breeds at Machako's.

36. TURACUS HARTLAUBI F. & R.; Sharpe, Ibis, 1892, p. 312.

No. 51. Machako's, July 10, 1896.

Two flocks of this species live on a mimosa-covered hill near Machako's. Common in the Kikuyu forest.

37. Gallirex chlorochlamys Shelley; Sharpe, Ibis, 1892, p. 313.

No. 51 *a*, ♂. Machako's, July 9, 1896.

The remarks under *T. hartlaubi* are also applicable to this species.

38. Schizorhis leucogaster (Rüpp.); Sharpe, Ibis, 1892, p. 314.

No. 115, ♂. Machako's, March 27, 1897.

Very common between Mombasa and Kibweze. Rare in the Machako's and Kikuyu districts.

39. Coracias caudatus Linn.; Sharpe, Ibis, 1892, p. 316.

No. 93, ♂. Machako's, May 4, 1896.

Very common in Machako's district during March, April, May, and June. A few are to be seen all the year round.

40. Coracias garrulus (Linn.); Sharpe, Cat. B. Brit. Mus. xvii. p. 15 (1892).

No. 8. Machako's, April 8, 1896.

Very common.

41. Upupa africana Bechst.; Salvin, Cat. B. Brit. Mus. xvi. p. 14 (1892).

No. 68, ♂. Machako's, Jan. 13, 1896.

An occasional visitor to Machako's district.

42. Irrisor viridis Licht.; Salvin, Cat. B. Brit. Mus. xvi. p. 17 (1892).

No. 27, ♂ ad. Machako's, April 26, 1896.

The only specimen seen during two years.

43. Bycanistes cristatus (Rüpp.); Grant, Cat. B. Brit. Mus. xvii. p. 417 (1892).

Nos. 120, 121; ♂ ♀. Niro Nairovi, Kikuyu.

Very common in Kikuyu forest.

44. Lophoceros melanoleucus (Licht.); Grant, Cat. B. Brit. Mus. xvii. p. 399 (1892).

No. 71, ♂. Machako's, Aug. 16, 1896.

Fairly common in Machako's district. This specimen I killed in the station.

45. Melittophagus cyanostictus Cab.; Sharpe, Ibis, 1892, p. 319.

No. 79. Machako's, Sept. 1896.

Common everywhere from Mombasa to Kikuyu, except in the open and very bare plains.

46. Colius leucotis Rüpp.; Sharpe, Cat. B. Brit. Mus. xvii. p. 341, pl. xii. fig. 1 (1892).

No. 58, ♂. N'Goleni, 7 miles from Machako's, Aug. 6, 1896.

Common in flocks all over the country from Mombasa to Kikuyu, except in the middle of the bare plains.

47. Cerchneis naumanni (Fleisch); Sharpe, Cat. B. Brit. Mus. i. p. 435 (1874).

No. 107, ♂. Machako's, March 1, 1897.

Several hundreds in a flock.

48. Cerchneis fieldi Elliot, Field Columb. Mus., Orn. i. p. 58 (1897).

Nos. 87, 88, ♂ ♀. Machako's, Nov. 7 & 8, 1896.

This pair nested in a tree near the fort. There was only one young bird, which I kept alive for some time.

[This is a small northern race of *C. rupicoloides*, discovered by Prof. D. G. Elliot during his journey into the interior of Somaliland, and, as a matter of fact, Dr. Hinde appears to have actually procured the first specimens of this new species. They arrived in London only a few days after Professor Elliot brought his Somali collection to the British Museum.—R. B. S.]

49. Anas undulata Dubois; Salvad. Cat. B. Brit. Mus. xxvii. p. 212 (1895).

No. 98, ♂. Machako's, Nov. 21, 1896.

50. Pœcilonetta erythrorhyncha (Gm.); Salvad. t. c. p. 285.

No. 99, ♂. Machako's, Nov. 21, 1896.

[By some mistake I named Mr. Jackson's specimen of this Duck from Machako's *Querquedula xanthorhyncha* (Ibis, 1892, p. 541). Count Salvadori (*tom. cit.* p. 213) has referred to this as a synonym of *Anas undulata*.—R. B. S.]

51. Nyroca brunnea Eyton; Salvad. Cat. B. Brit. Mus. xxvii. p. 351 (1895).

No. 97, ♂ ♀. Machako's, Nov. 21, 1896.

The Ducks arrive at Machako's every year in October and April, and remain as long as the rains last, a period of one or two months.

52. Hagedashia hagedash Sharpe, Cat. B. Brit. Mus. xxvi. p. 19 (1898).

No. 52, ♂. Machako's, July 15, 1896.
No. 52, ♂. „ Oct. 27, 1896.

Very common on the Sabaki and Athi rivers, occasionally following the course of their smallest tributaries to an immense distance from any large body of water or big swamp.

53. Herodias alba (L.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 90 (1898).

No. 49, ♀. Machako's, July 7, 1896.

54. Bubulcus lucidus (Rafin.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 213 (1898).

No. 29, ♂ ♀. Machako's, April 9, and May 5, 1896.

Flocks of these birds visited Machako's in April and May, 1896.

55. Butorides atricapillus (Afzel.); Sharpe, Ibis, 1892, p. 541.

No. 50, ♂. Machako's, July 7, 1896.

Common on the rivers and pools.

56. Scopus umbretta Gm.; Sharpe, Ibis, 1892, p. 542.

No. 86, ♀. Machako's, Oct. 28, 1896.

Very common and breeds in the district.

57. Trachelotis canicollis (Reichen.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 309 (1894).

Otis canicollis Sharpe, Ibis, 1892, p. 543.

No. 48, ♂. Machako's, July 7, 1896.

58. Lissotis melanogaster (Rüpp.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 306 (1894).

Otis melanogaster Sharpe, Ibis, 1892, p. 543.

No. 77, ♂ ♀. Machako's, Aug. 14, 1896, Sept. 12, 1896.

Both species of Bustard live and breed in the plains around Machako's. In the dusk of the evening they come to the cultivated land in and near the hills in large numbers to feed. Their chief food is grasshoppers.

59. Œdicnemus affinis Rüpp.; Sharpe, Cat. B. Brit. Mus. xxiv. p. 17 (1896).

Nos. 89, 90, ♂ ♀. Machako's, Nov. 5, 1896.

I fancy this is a common species, though I never shot at the birds but once, and then in mistake for another species. I winged the pair, and they were very tame about the place for some time; then both died suddenly on the same day. They used to make a curious noise by shaking the tail-feathers, sounding exactly like the white ant's alarm-note. White ants probably answer the signal, and so indicate their position to the bird.

60. Ochthodromus asiaticus (Pall.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 230 (1896).

Nos. 109, 110, ♂ ♀. Machako's, March 2, 1897.

In large flocks. Found in the dry plains, far from water.

61. Stephanibyx coronatus (Bodd.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 178 (1896).

No. 116, ♂. Machako's, April 2, 1897. "Did-he-do-it."

This bird is very common on the plains and is one of the stalker's greatest enemies, as its shrill note alarms the game at the most inopportune moments.

62. Rhyacophilus glareola (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 490 (1896).

Totanus glareola Sharpe, Ibis, 1892, p. 545.

No. 84, ♂. Machako's river, Oct. 26, 1896.

A very common bird on even the smallest streams.

63. Gallinago major (Gm.); Sharpe, Ibis, 1892, p. 545.

No. 86, ♂. Machako's, Nov. 9, 1896.

Comes here in large numbers during the rains at the end of October and April.

64. Gallina gonigripennis Bp.; Sharpe, Ibis, 1892, p. 545.

No. 54, ♀. Kikuyu, July 23, 1896.

Common. It has the same note as the preceding species.

65. Rostratula capensis (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 683 (1896).

No. 53, ♂. Kikuyu, July 23, 1896.—Found among five brace of Common Snipe shot the same day.

Nos. 117, 118, ♂ ♀. Machako's, April 28, 1897.

A rare visitor. Among a hundred and odd brace of Snipe shot there were only one and a half brace of the Painted Snipe.

66. Tachybaptes capensis Salvad. Ann. Mus. Genov. (2) i. p. 252 (1884).

No. 40, ♂. Machako's, May 4, 1896.

No. 40, ♂. ,, Sept. 14, 1896.

Common. Breeds in Machako's and the Kikuyu districts.

67. Limnocorax niger (Gm.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 150 (1894).

Limnocorax flavirostris (Sw.); Sharpe, Ibis, 1892, p. 546.

No. 31, ♂. Machako's, May 10, 1896.

Very common and breeds on the banks of all the streams in British East Africa.

68. Vinago calva (Temm. & Knip); Salvad. Cat. B. Brit. Mus. xxi. p. 20 (1893).

Treron calva Sharpe, Ibis, 1892, p. 548.

No. 92, ♂. Machako's, Oct. 3, 1896.

Common wherever there are a few trees from Mombasa Island inland. This bird never feeds on the ground, and I should think it doubtful whether it ever alights there.

69. COLUMBA ARQUATRIX Temm.; Salvad. Cat. B. Brit. Mus. xxi. p. 276 (1893).

Palumbus arquatrix Sharpe, Ibis, 1892, p. 548.

No. 94, ♂. Machako's, Sept. 11, 1896.

Very wild; common on bushy hills, but hard to get near.

70. TURTUR SENEGALENSIS (L.); Sharpe, Ibis, 1892, p. 547.

No. 28, ♂. Machako's, April 28, 1896.

Very common.

71. PTEROCLES GUTTURALIS Smith; Sharpe, Ibis, 1892, p. 549.

Nos. 55, 56, ♂ ♀. Near Machako's, July 27, 1896.

72. FRANCOLINUS ULUENSIS Ogilvie Grant; Sharpe, Ibis, 1892, p. 551.

No. 73, ♀. Machako's, Sept. 11, 1896.
No. 74, ♀. „ Sept. 3, 1896.
No. 83, ♂. „ Oct. 3, 1896.

73. PTERNISTES INFUSCATUS Cab.; Sharpe, Ibis, 1892, p. 552.

No. 91, ♂. Machako's, Oct. 1, 1896.

Common.

L.—*On the Orcadian Home of the Garefowl* (Alca impennis).

By ALFRED NEWTON.

IN 1888 Mr. Buckley, one of the authors of the 'Vertebrate Fauna of the Orkney Islands,' made a survey of Papa Westray, being naturally desirous of ascertaining the actual breeding-place—reputed to be thereon—of the extinct species about which so much has been written, and found what struck him "as being very likely indeed for it" (*op. cit.* p. 249). This was a shelving rock on the west side; but the next year Mr. Harvie-Brown, the other author of that valuable volume, visiting the spot, saw that it was unsuitable; for the surf, though there was not much wind at the time, ran up the slope, and in a gale would evidently dash against the very face of the cliff above (*op. cit.* p. 250). Furthermore, an examination of the whole island showed that there was no possible breeding-place for such a bird as this upon it, though he made out to the satisfaction of all where the bird had been accustomed to rest; and by a very unexpected piece of good fortune ascertained the precise spot where, and the circumstances in which, the last of the Orcadian Garefowls met its death. To the fidelity of the plate (*op. cit.*, to face p. 246) representing some of the remarkable series of waterworn caves on the north-east corner of the island—the Fowls' or Auks' Crag, one of which was the scene of the tragedy of 1813—I can bear witness; and there is no reason to doubt the conclusions at which he arrived (*op. cit.* p. 257).

Unfortunately I had failed, prior to the publication of this book, to appreciate a piece of information which had long been in my possession, and accordingly I had omitted to communicate it to the authors. Though it cannot be doubted that the "King and Queen of the Auks," to use what Bullock tells us was their local title, resorted to Fowls' Crag as a resting-place, that island was really not the one on which their breeding-place was situate; but, as a memorandum, written in the autumn of 1858 by the late Mr. John Wolley*, shows, the breeding-place, as I have elsewhere stated (Dict. Birds, p. 307, note 1), must have been on the *Holm* of Papa Westray, a small island lying to the eastward of the larger one, from which it is separated by a comparatively narrow and shallow sound, and well described by Mr. Buckley (*ut suprà*, pp. 21, 22). How Wolley became aware of this fact I cannot explain, for I have met with no other record of it†; but that his information was correct I do not for a moment doubt, as it is now confirmed by my own examination of the locality, and I very much regret that I had not sooner made my friends acquainted with it, for thus they would have been saved from some perplexity, and, their own investigations having been more complete, would have rendered the present notice unnecessary.

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* Wolley's memorandum is headed "Questions concerning the Great Auk in the Holm of Papa Westra," and consists of a carefully-prepared catechism to be submitted, through Mr. Hughes of Borrowstoneness, to the then Mr. Traill of Papa Westray. The meagre results of these enquiries have already been given by Messrs. Buckley and Harvie-Brown (*op. cit.* pp. 247, 248).

† He possibly had it verbally from Salmon, who was on the Holm of Papa Westray in 1831 (Mag. Nat. Hist. v. pp. 418, 420).

The significance of this fact, when I had duly perceived it, coupled with the statement (to which I have just referred) of Mr. Harvie-Brown as to the unsuitableness of any part of the larger island for a breeding-place of the Garefowl, made me very desirous of seeing for myself the Holm of Papa Westray, and on the 30th of June, 1893, I had the pleasure of being taken in the yacht of my kind friend Mr. Henry Evans to view it. As we steamed northward along its eastern and seaward side, keeping as near the shore as was considered to be prudent, there was at first little encouragement; but, after passing the north-eastern end of the islet, we were able to look back, and then saw, though at a considerable distance, the land falling away in a succession of large flake-like slabs, sloping in a north-westerly direction toward the sound or channel between the Holm and the larger island. This seemed to me to form so likely a breeding-place for this flightless bird that I longed for an opportunity of examining it more closely, and even of landing upon it. Though Mr. Evans took me to the Orkneys again in 1896 and 1897, and was anxious that I should accomplish my wish, the weather and other considerations hindered us from approaching so near to the Holm as we had done in 1893; but in the present summer my desire was fulfilled. On the 27th of June, 1898, we left Kirkwall about 6 o'clock in the morning, and, the weather being propitious, we some hours after reached the southern entrance of the sound between Papa Westray and its Holm. Then, embarking in the ship's boat, we were rowed up the sound along the western side of the Holm. Its southern end and the adjoining shore are encumbered with large rounded boulders, which would render a landing inconvenient if not impossible for a Garefowl. To this immediately succeeds a little bay of less forbidding aspect, for it was enlivened by the presence of ten Grey Seals

(*Halichœrus grypus*) basking in the sunshine on its margin, and then follows a low grassy shore, with some sandy beaches —pleasant enough to look upon, especially as there were plenty of birds of various kinds about, but not promising for our particular object. However, I did not lose faith in the vision of sloping slabs which I had had from the other end five years before; and as we proceeded the prospect of them began to open out, until at last, when we arrived opposite to them, my expectations in regard to the suitableness were (as seldom happens) surpassed. Completely protected from the westward, and sufficiently from the northward, by the larger island, Papa Westray itself, and having on the east the higher land of the Holm, which towards its northern end, "the How," rises to form a lowish cliff, there was a broad expanse of shelving rock dipping down to the water's edge and continued beneath the sea at the same slope. Here would be room for a regiment of Auks to have landed at any state of the tide*, and to have marched in line up the gentle ascent so far as they wished to go, even to the very turf-covered soil of the islet, while some three or four deep chasms running inward, at right angles to the flaky slabs, would serve on occasion to diminish the length of the land-journey to any aspiring Auk, or to facilitate the escape of one threatened by danger. The surface of the sloping shelves, which form a series of steps, each only a few inches high, and succeed each other with great regularity, is even at the lower part singularly unencumbered by seaweed. On the shelves in places there is a good number of more or less waterworn stones, doubtless cast up from time to time by winter storms, and some of them are huge oblong blocks, twelve or fifteen feet in length and from a foot to eighteen inches across. Others are more rounded, and these last are piled in a ridge through which at intervals, wherever there is any soil washed down from above, the vegetation of the islet makes its way; but there is nothing that would really obstruct my imaginary regiment from advancing almost in line, as the obstacles could be easily avoided. If there were, as tradition has it, but a single "King and Queen of the Auks" to occupy these wide slopes, the choice of a spot for the royal *incunabulum* would be great indeed. Of course all our party—consisting of Mr. Evans, Colonel Bolland, and Mr. Joseph Whitaker—landed, and we passed some time on this interesting spot, of which Mr. Evans obtained several photographs. I cannot doubt that it was the true home of the species whose extirpation, so far as Orkney is concerned, was compassed in 1813 by Bullock*.

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* At the south-eastern end of the Holm, the Admiralty chart marks "Very little tide."

A good many books have been written about Orkney, and I think I must have read most of them. So far as I am aware, there is no evidence of the occurrence of the Garefowl upon any of the islands or in Orcadian waters†, before Bullock made known the experience of his first visit in the summer of 1812, as originally announced by Montagu (Suppl. Orn. Dict., Appendix) in 1813, the very year in which the last example, whose remains are now in the British Museum, was killed. The testimony of Low, who died in 1795, is that he had "often inquired about the Great Auk especially, but cannot find it is ever seen here"‡. I am therefore much inclined to suspect that the species could not have made its appearance in Orkney very long before Bullock was there. Dunn (Orn. Guide Orkney and Shetland, p. 104), though on some points perhaps not a trustworthy authority, could hardly have been mistaken in repeating the evidence of Mr. Traill, of Papa Westray, "that a pair of these birds were constantly seen there for several years." This gentleman (whose sister, I believe, it was that sent the specimen to Bullock) also stated that he supposed the birds "had a nest [!] on the island, but on account of its exposed situation the surf must have washed the eggs from the rocks, and thus prevented any further increase." The expression "for several years" is significant, as indicating that the birds had not been there from old times, and indeed, had that been the case, one could hardly imagine that the species would not have been known by its terse Scandinavian name in some form or other —for that even survived in Gaelic-speaking St. Kilda— instead of by such a phrase as "King" or "Queen of the Auks." *

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* We also traversed the greater part of the islet, which is mostly covered with beautiful short grass, and contains a few small pools. We saw several species of birds in addition to those noticed by Mr. Buckley on his visit ten years ago, though only such as might well be expected to occur there, as Starling, Sky-Lark, Rock-Lark, Ringed Plover, Lapwing, Redshank, Snipe, Common Gull, Eider-Duck, and Merganser, besides finding some feathers of a Sheldrake, and one which seemed to have belonged to a Teal. On the other hand, several species seen by Mr. Buckley were not observed by us, as Grey Crow, Twite, Cuckow, and Rock-Dove. A great change must have come over the islet since Salmon's visit in 1831. I think there were not fifty pairs of Gulls upon it this year; he speaks (*ut suprà*) of "several thousands." *Sic semper!*

† Baikie and Heddle, in 1848, said (Hist. Nat. Orcad. p. 88) that "One was seen off Fair Isle in June, 1798"; but I do not know whence the information is derived, and, at any rate, the Fair Island is not one of the Orkneys.

‡ Through the loss of Low's Journal of 1778, when he explored the northern islands of the group, we do not know whether he was ever upon Papa Westray or its Holm. If he was there, since he had no tidings of the bird, we may be sure it did not exist there then.

Cambridge, 31st July, 1898.

LI.—*On a Collection of Birds from Marocco.*

By J. I. S. Whitaker, F.Z.S.

(Plate XIII.)

Toward the close of the year 1896 I engaged the services of Mr. Edward Dodson, with a view to sending him on a collecting-tour in Tripolitana and Cyrenaica. This trip, however, having been found to be impracticable, owing to the difficulty of travelling in the interior of the Pashalic,

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* I observe in some of the older maps of the Orkneys (Wallace, 1693, reprint 1883, and Sibbald, 1711, reprint 1845) that an anchorage is marked at the north end of the sound between Papa Westray and its Holm. This could have been used only by very small vessels, as there are several rocks "awash" in that part of the channel; but if it was much frequented even by fishing-boats, their occupants could not have been good neighbours to any Garefowl, if such inhabited the shelves of the islet, not many hundred yards off.

I determined to send Mr. Dodson instead to Marocco, and he accordingly left England for that country in the early part of 1897.

After spending three weeks collecting in the neighbourhood of Tangier, Mr. Dodson left on the 13th March for Fez, and crossing the river Sebu at Karia-el-Habessi, reached that town on the 25th of March. Leaving Fez again on the 1st April, he went to Mequinez, and then returned to the coast, going first to Rabat, and then to Mazagan, reaching the latter place on the 18th April. From Mazagan he struck inland for Marocco city, where he arrived on the 27th April. At Marocco city much time was lost in endeavouring to obtain the Sultan's permission, required to allow foreigners to travel in the Atlas; but on the 16th May Mr. Dodson was finally permitted to start, accompanied by an escort of mounted soldiers.

Travelling in a southerly direction by way of Tameshlot, he first visited the town of Amsmiz, situated in a small but fertile valley at the foot of the lower ranges of the Atlas, and then ascended as far as Imintella; the country here gradually rising by a succession of terraced hills to the higher ranges, forming the backbone of the great chain of mountains. The tribes of this district, however, being at war amongst themselves, and the country unsafe, Mr. Dodson was obliged to retrace his steps to Amsmiz, from whence, proceeding in a north-easterly direction, he reached Mesfioua, and later on Kasbar Iminzet.

A fresh start for the mountains was made on the 22nd May, when a successful tour was accomplished, although not without considerable difficulty and hard work in the way of mountain-climbing. On this occasion the following places were visited in succession:—Enzel, Zarakten, Tilula, and Glaoui, all of which had probably never been previously explored by an ornithologist. The last-named district, which has an altitude of about 5000 feet, was the most southerly point in the Great Atlas reached by Mr. Dodson. Here the traveller was entertained most hospitably by the Kaid of Glaoui at his residence in the Castle of Teluet, a fine old fortress with solid stone battlements, very unlike the more modern Moorish structures.

Further progress south being absolutely prohibited by the local authorities, owing to the disturbed state of the country, Mr. Dodson left Glaoui on the 28th May, returning to Iminzet, and then travelling in a westerly direction, *viâ* Tameshlot, Frouga, Tehaset, and Ogadel, finally reached Mogador on the coast on the 8th June. Going southwards, Mr. Dodson visited Ecru, and Ras-el-Ain in the Haha country, remaining at the latter place till the beginning of July, when he returned to Mogador, and took ship to England.

The greater part of the country visited by Mr. Dodson in Marocco was under cereal cultivation, and the absence of trees seems to have been remarkable, the only well-wooded spots met with being in the Atlas Mountains. These, however, were few and far between, most of the hills being of the bleakest description, and some of the higher ranges particularly barren and desolate. In the Haha district forests of the Argand-tree (*Argania sideroxylon*) occur, but these do not seem to have great attractions for birds, although they have for the Ground-Squirrel, which apparently feeds largely on the fruit of these trees.

The vast stony plains and semi-desert country common to the Algerian and Tunisian Sahara do not seem to occur in the districts in Marocco visited by Mr. Dodson, and this will no doubt account for the total absence from his collection of some of the strictly desert forms, as well also for the paucity of many other desert-frequenting species.

I annex a systematic list of the different species of birds of which specimens were obtained, amounting in all to 134 species and subspecies, among which 5 are new to science. These novelties, as indeed most of the rarer species enumerated in the list, seem to have been met with in the Atlas district, and it is a pity that more time could not have been devoted to collecting there, and, moreover, that the disturbed state of the country prevented further exploration southwards. It is also to be regretted that, owing to Mr. Dodson having omitted to make any field-notes, little can be recorded respecting the birds beyond the bare label data, which fortunately, however, are most carefully noted in every instance.

In conclusion, it only remains for me to say that great credit is due to Mr. Dodson for the energy and perseverance displayed by him in overcoming the many difficulties which beset the European traveller in fanatical and little-explored countries, among which Marocco, although so near civilization, must still be classed.

TURDUS MUSICUS.

Two specimens, ♂ and ♀, from Schaf-el-Akab, 26th February, and a ♀ from Jedida, 2nd April.

TURDUS MERULA.

Several, ♂ and ♀, from Schaf-el-Akab, Fez, Frouga, and Ras-el-Ain, between February and June.

SAXICOLA ŒNANTHE.

Several, ♂ and ♀, from North and Central Marocco, in March and April, the latest date on which a specimen was obtained being the 6th April.

SAXICOLA AURITA.

Five, ♂ and ♀, from Mequinez, Marocco city, and Iminzet, in April and May.

SAXICOLA STAPAZINA.

Five specimens, all males, from Glaoui and Ras-el-Ain, in May and June. No specimens of *S. melanoleuca*, the western range of which probably does not extend beyond Tunisia, were procured.

SAXICOLA LEUCURA.

Five, ♂ and ♀, from Amsmiz, Iminzet, Enzel, and Tilula, in May.

SAXICOLA SEEBOHMI.

Three specimens, all males: one obtained at Tilula on 24th May, and the other two at Zarakten on 29th May

Two of the specimens are in fine adult plumage, while the third, which is probably a last year's bird, shows some immature feathers. No female specimens were obtained, and Mr. Dodson says he met with none, and concluded that the hen birds were on their nests at the time.

Mr. Dodson met with this rare Chat only in the above-named districts in the Atlas Mts., where he found it by no means common, and always in the most desolate and barren spots. The height of Zarakten and Tilula is apparently about 5000 feet above sea-level, or about the same as that of the plateaux of the Djebel Mahmel in Algeria, where Mr. C. Dixon and Dr. Koenig found the species, and this degree of elevation is doubtless a characteristic of the bird's habitat. The range of *S. seebohmi* probably extends throughout the entire chain of the Atlas Mountains, wherever the above-mentioned altitude is reached; but it appears to be nowhere very abundant, at any rate now, although Mr. Dixon found it common on the Djebel Mahmel in 1882. I may here mention that last year I sent a collector to the Djebel Mahmel, in the month of May, with a view to obtaining the nests and eggs of *S. seebohmi*; but although my man spent a couple of days on the mountain, he failed to find what I wanted, nor did he even come across the bird itself, the only Chat he found being *Saxicola aurita*, of which species he brought me a nest with five eggs and the hen-parent.

PRATINCOLA RUBETRA.

A few skins of ♂ and ♀, from Dukalier and Nzela Swinia in April.

PRATINCOLA RUBICOLA.

A large series, ♂, ♀ and young, from almost every district visited, with the exception of the Atlas Mountains.

RUTICILLA PHŒNICURUS.

A male, from El Horush in March.

RUTICILLA MOUSSIERI.

A fine series of ♂, ♀ and young, from Amsmiz, Enzel, Zarakten, Tilula, Glaoui, Ras-el-Ain, and Ecru, in May and June.

CYANECULA WOLFI.

A male, from Karia-el-Habessi, 20th March.

ERITHACUS RUBECULA.

Three skins of ♂ and ♀, all from Schaf-el-Akab in March.

DAULIAS LUSCINIA.

Nine examples, ♂ and ♀, from Casa Blanca, Rabat, and Marocco city, in April and May.

SYLVIA RUFA.

A pair from Marocco city in May.

SYLVIA SUBALPINA.

Four skins of ♂ and ♀, from Karia-ben-Auda in March, and from Zarakten and Enzel in May.

SYLVIA CONSPICILLATA.

Four skins of ♂ and ♀, from Ogadel, Mesfioua, and Ras-el-Ain, in May and June.

SYLVIA MELANOCEPHALA.

A large series of ♂ and ♀, from both North and South Marocco.

SYLVIA ORPHEA.

A few skins of ♂ and ♀, from Ogadel and Ras-el-Ain, in June.

SYLVIA ATRICAPILLA.

A few skins of ♂ and ♀, from Fez, in March.

SYLVIA SALICARIA.

Five skins of ♂ and ♀, from Marocco city, in May.

PHYLLOSCOPUS COLLYBITA.

Several skins of ♂ and ♀, from Schaf-el-Akab, in February and March.

PHYLLOSCOPUS TROCHILUS.

Four skins of ♂, from Rabat, El Kasar, and Casa Blanca, in March and April.

PHYLLOSCOPUS BONELLI.

Two skins of ♂ and ♀, from Segota in March, and from Zarakten in May.

HYPOLAIS POLYGLOTTA.

Five skins of ♂ and ♀, from Marocco city, Enzel, Iminzet, and Ras-el-Ain, between April and June.

HYPOLAIS PALLIDA.

A large series of ♂ and ♀, mostly from Marocco city in May, and from Ras-el-Ain in June.

ACROCEPHALUS STREPERUS.

Two males, from Marocco city, in May.

AËDON GALACTODES.

Several skins of ♂ and ♀, from Marocco city, Enzel, Ogadel, and Ras-el-Ain, in May and June.

CETTIA CETTII.

Six, from Fez, Marocco city, and Ras-el-Ain, between April and June.

CISTICOLA CURSITANS.

A large series of ♂ and ♀, from North and South Marocco, at all seasons.

PARUS MAJOR.

A large series of ♂, ♀ and young, from Fez, Marocco city, Tilula, and Ras-el-Ain, between April and June.

PARUS ULTRAMARINUS.

A few skins of ♂ and ♀, from Schaf-el-Akab, El Horush, Marocco city, Zarakten, and Tilula, between March and May.

TROGLODYTES PARVULUS.

One ♂ from Fez on 31st March. The only one seen.

MOTACILLA ALBA.

Several skins of ♂ and ♀, from Schaf-el-Akab and Rabat, February and March.

MOTACILLA LUGUBRIS.

Four skins of ♂ and ♀, from Schaf-el-Akab, February and March.

MOTACILLA MELANOPE.

Three skins of ♂ and ♀, from Tilula, in May.

MOTACILLA FLAVA.

Six skins, all of males, from Casa Blanca, Mazagan, Karia-el-Habessi, and Isseremont, between March and May.

MOTACILLA RAII.

Four skins of ♂ and ♀, from Mazagan, in April.

ANTHUS PRATENSIS.

A few skins of ♂ and ♀, from North Marocco, in February and March.

ANTHUS TRIVIALIS.

A few skins of ♂ and ♀, from North Marocco, in February and March.

ANTHUS CAMPESTRIS.

A few skins of ♂ and ♀, from Central Marocco in April, and from Zarakten in May.

PYCNONOTUS BARBATUS.

A large series, ♂, ♀ and young, from Schaf-el-Akab, El Kasar, Fez, Marocco city, and Ras-el-Ain, February to July.

ORIOLUS GALBULA.

A male, from Amsmiz, 18th May.

LANIUS ALGERIENSIS.

Five skins of ♂ and ♀, from North Marocco in March. These are identical with specimens from Algeria and Tunisia.

LANIUS ALGERIENSIS DODSONI, subsp. nov.

I have a large series of skins, of both sexes, of a Grey Shrike from Central and Southern Marocco, obtained between April and July. The bird resembles *L. algeriensis* to a certain extent, but differs from that species in having the general colour of the upper parts paler, and of a soiled grey instead of a clear slate-grey, while the underparts are whiter, in some specimens being quite white. In point of colour these examples somewhat resemble dark specimens of *L. fallax* from Palestine, but are rather more dingy, and, moreover, differ from them, and still more so from *L. elegans*, in having much less white on the secondaries and tail-feathers, the marking of the wings and tail being as in *L. algeriensis*, of which species, in fact, I consider the present bird a form, but sufficiently distinct to be separated as a subspecies. The measurements are as in *L. algeriensis.*

Mr. Dodson apparently never met with *L. elegans* during his journey, but I should think it probably occurs in some of the desert districts of Marocco.

LANIUS POMERANUS.

A large series of ♂, ♀ and young, from all parts, between April and June.

TELEPHONUS ERYTHROPTERUS.

Four skins of ♂ and ♀, from Marocco city and Ras-el-Ain, in May and June.

MUSCICAPA GRISOLA.

Several skins of ♂ and ♀, mostly from Marocco city and the south, May and June.

MUSCICAPA ATRICAPILLA.

Two skins of ♂ and ♀, from Marocco city, May.

HIRUNDO RUSTICA.

A few skins of ♂, ♀ and young, from both North and South Marocco, between March and June.

HIRUNDO RUFULA.

A large series of ♂, ♀ and young, from Marocco city and Ras-el-Ain, in April and June. Very common at the latter place.

CHELIDON URBICA.

A female, from Tilula, 24th May.

COTYLE RIPARIA.

A female, from Schaf-el-Akab, 10th March.

CARDUELIS ELEGANS.

Five skins of ♂ and ♀, from Schaf-el-Akab in March, and a young bird from Sierzet on 5th June.

SERINUS HORTULANUS.

Several skins of ♂, ♀ and young, from Fez and Marocco city, in April and May.

LIGURINUS AURANTIIVENTRIS.

A few skins of ♂ and ♀, from both North and South Marocco. All are of the bright-coloured North African form of Greenfinch.

PASSER ITALIÆ.

A specimen obtained at Ras-el-Ain on the 30th June is so like typical examples of this species that I cannot separate it; at the same time it is possible that it may be a hybrid between *P. domesticus* and *P. salicicola* (both of which species occur in South Marocco), although it is not the usual form of hybrid.

PASSER DOMESTICUS.

A few typical skins from Schaf-el-Akab in March, also one from Glaoui in May. Some other skins, showing hybridism between the present species and *P. salicicola,* from Marocco city, Tameshlot, and Ras-el-Ain.

PASSER SALICICOLA.

One typical specimen from Schaf-el-Akab, and others, apparently hybrids between the present species and *P. domesticus,* from the interior and South Marocco.

PETRONIA STULTA.

Five skins of ♂ and ♀, from Glaoui, in May.

FRINGILLA CŒLEBS.

Two skins, both of females, from Schaf-el-Akab and Hawara, in March.

FRINGILLA SPODIOGENA.

A large series, ♂ and ♀, from El Kasar, Marocco city, Tilula, and Ras-el-Ain, between March and July. As compared with Tunisian specimens of this species, these Marocco birds are rather darker and more brightly coloured, but I cannot find any distinctive features between them.

LINOTA CANNABINA.

A few skins of ♂ and ♀, from Schaf-el-Akab.

RHODOPECHYS ALIENA Whitaker, Bull. B.O.C. vii. p. xviii.

Adult ♂. Glaoui, Great Atlas Mts., Marocco.

Similar to *R. sanguinea,* but differs from that species in the following respects :—The hind neck is rather ashen, and not sandy buff; the throat is whitish, tinged with rose, and not brown ; the quills are much less brightly coloured, being but slightly margined with carmine, the inner secondaries being tipped with soiled white or buff; the rump and upper tail-coverts are brown, and not rose-pink ; the outer rectrices have only the outer web white, the inner web being brown. Iris brown; legs brown; bill yellow-ochre. Total length about 5·50 inches, wing 4, culmen ·50, tarsus ·75.

Adult ♀. Differs but slightly from the male, the forehead and crown being less dark, the eye-region having less carmine or rose tinge, and the throat being entirely without any rose-tinted feathers. Soft parts and measurements same as in the male.

Of this new Rose-Finch I have three specimens, a male and two females, all having been obtained at Glaoui, in the Great Atlas Mts., on the 28th May. Mr. Dodson, in reply to my enquiry, says that he met with this species only at Glaoui, a valley about 5000 feet above sea-level, to the south-east of Marocco city, and that the birds were in small flocks.

EMBERIZA MILIARIA.

A few skins of ♂ and ♀, from North Marocco in February and March, and one from the Atlas district in May.

EMBERIZA CIRLUS.

A good series, ♂, ♀ and young, mostly from Marocco city and Ras-el-Ain, in May and June.

EMBERIZA CIA.

Five skins of ♂ and ♀, from Zarakten and Tilula in May.

EMBERIZA SAHARÆ.

Four skins of ♂ and ♀, all from Marocco city in May. Evidently this species is very local in Marocco, as it is in Algeria and Tunisia.

GALERIDA CRISTATA.

Ten skins of ♂ and ♀, from Hawara, Uled Haddad, Karia-el-Habessi, and other districts in North Marocco, all obtained in the month of March. These specimens, although not quite identical with typical examples of *G. cristata* from Europe, approach them closely.

GALERIDA THEKLÆ.

Four skins of ♂ and ♀, from Schaf-el-Akab and El Horush, both places in North Marocco, in February and March. These are good examples of this species of Crested Lark. If anything, they are rather darker than specimens from Spain.

GALERIDA THEKLÆ RUFICOLOR, subsp. nov.

I have a large series, ♂ and ♀, of a short-billed Crested Lark from Central and Southern Marocco. It resembles *G. theklæ* to a certain extent, but differs from it in being of a paler and more rufous colour, without, however, being at all isabelline; its breast is rather thickly spotted, as in *G. theklæ,* although the spots are smaller; and another point of difference is the length of the tarsus, which is less than in *G. theklæ*. As this bird cannot be referred to either *G. theklæ, G. isabellina,* or any other described species with which I am acquainted, I have decided to consider it as a subspecies of *G. theklæ,* naming it as above. The measurements are as follows:—ad. ♂, total length about 5·50 inches, wing 4, culmen ·50, tarsus ·80; ad. ♀ a little smaller, the wing measuring only 3·80 inches.

C. L. Brehm (Naum. 1858, p. 209) described a bird from South Spain under the name of *G. cristata rufescens,* which might possibly be the same as the above; but the description given is altogether too vague and insufficient to enable one to decide without seeing the type specimen, and certainly none of the Crested Larks that I have seen from Spain are like these Marocco birds. Crested Larks very similar to the latter are to be found in some of the Central and Southern districts of Tunisia. I would here take the opportunity of observing that, having obtained a further series of specimens of the pale Crested Lark from Tunisia which I described under the name of *Alauda c. pallida* (Ibis, 1895, p. 100), since renamed by Mr. Hartert *G. c. superflua* (Novitates Zoologicæ, vol. iv. p. 144), I find that it runs so much into *G. isabellina*, that it cannot well be separated from it.

GALERIDA ISABELLINA.

A female, from Ogadel in June. This approaches closely dark specimens I have of this Crested Lark from Tunisia.

GALERIDA MACRORHYNCHA.

Seven skins of ♂ and ♀, from Mesfioua, Enzel, Isseremont, and Tameshlot, in May and June. These are a dark rufous form of the *G. macrorhyncha* type of Lark.

ALAUDA ARVENSIS.

Two, ♂ and ♀, from Schaf-el-Akab, end of February; the bird must, however, occur further south.

CALENDRELLA BRACHYDACTYLA.

A good series of ♂ and ♀, from Uled Aloo, Mequinez, Wed Enger, and Dukalier, in March and April. Apparently not occurring later in the south.

CALANDRELLA MINOR.

A good series, ♂ and ♀, from Mazagan, Dukalier, Sierzet, Enzela Imera, and Ras-el-Ain, between April and June.

MELANOCORYPHA CALANDRA.

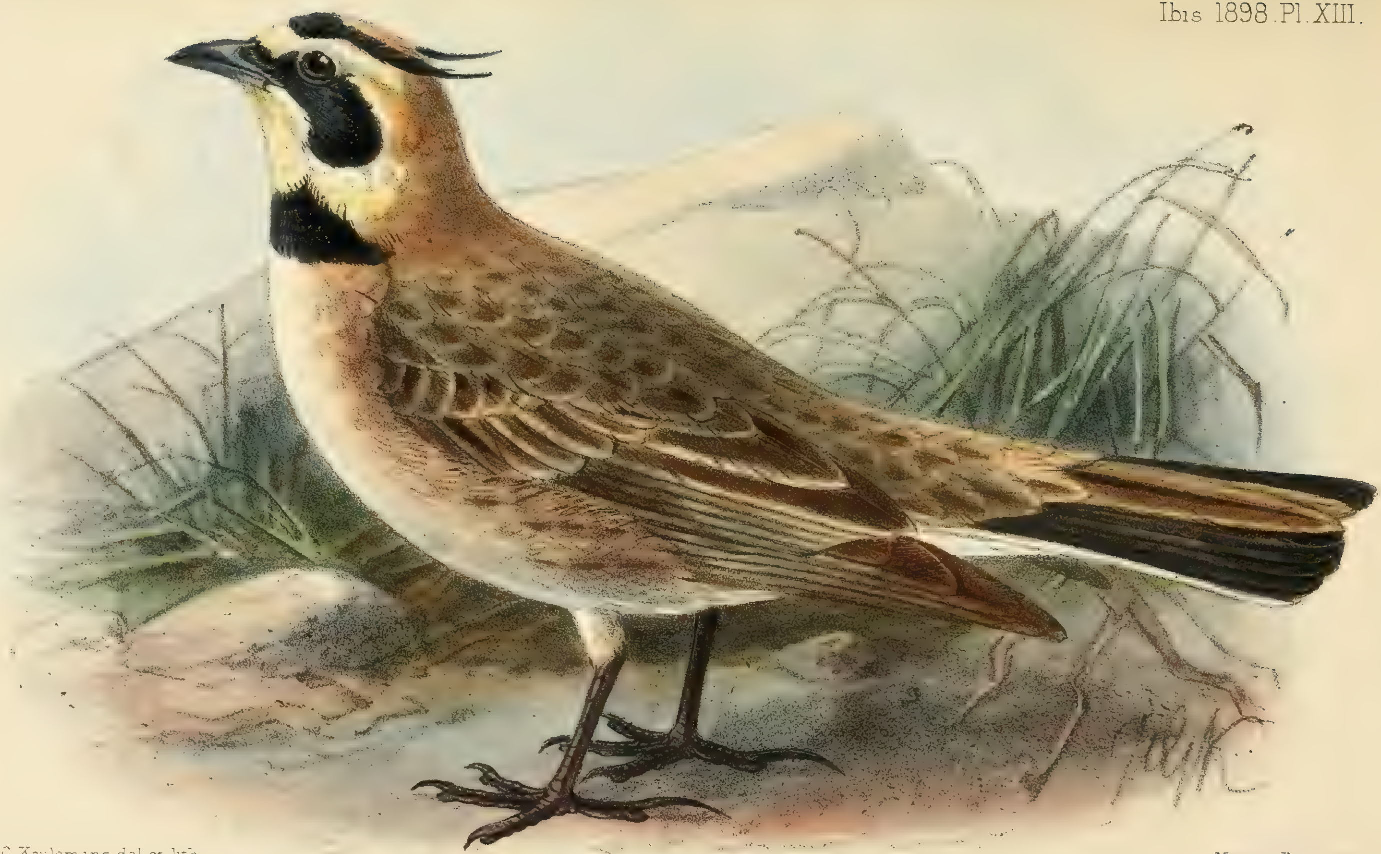
A good series of ♂ and ♀, from Sebu river, Hawara, Uled Aloo, and Dukalier, in March and April. Apparently not met with later down south.

OTOCORYS ATLAS Whitaker, Bull. B. O. C. vii. p. xlvii. (Plate XIII.)

Adult ♂. Glaoui, Great Atlas Mts., Marocco.

Resembles *O. elwesi*, but differs from that species in having the upper wing-coverts of a uniform sandy-brown colour, the same as the back, and not vinaceous, while the hind crown and nape are of a rich rufescent hue, and the upper throat of a pale sulphur-colour. The black of the lower throat and of the cheeks is distinctly separated by a yellowish-white patch, as in *O. alpestris*, while the general colour of the upper parts, the black band over the base of the bill, the bill itself, and the long hornlets are all as in *O. penicillata*.

Ibis 1898. Pl. XIII.



J. G. Keulemans del. et lith.

Mintern Bros. imp.

OTOCORYS ATLAS.

In short this new Shore-Lark seems to partake of the distinguishing characters of both the species just mentioned, although it is perhaps more closely allied to *O. penicillata*, as is also *O. elwesi.* Iris brown; bill greyish black; legs black. Total length about 7 inches, wing 4·45, culmen ·60, tarsus ·80 in.

Adult ♀. Glaoui, Great Atlas Mts., Marocco.

General colour as in male, but wanting the black band on fore crown; the dark cheek-patch but faintly marked; black hornlets much shorter; lores and narrow streak over base of bill brownish instead of black; frontal light band soiled yellowish; crown streaked with dark brown; hind neck slightly rufescent. Soft parts as in male. Total length about 6 inches, wing 4·10, culmen ·50, tarsus ·70.

Of this new Shore-Lark Mr. Dodson obtained only this pair. The accompanying Plate makes the bird appear rather larger than it really is in life, and the legs also are too stout.

STURNUS VULGARIS.

Four skins of females, from Schaf-el-Akab in March.

STURNUS UNICOLOR.

A large series of ♂ and ♀, some of which, obtained in the months of March, April, and May (beginning) at Fez, Mequinez, and Marocco city, have *yellow* bills, while others obtained towards the end of June at Ras-el-Ain have *black* bills. There is also a young bird, apparently about a couple of months old, obtained at Marocco city on the 13th May.

The breeding-season of birds generally in the south of Marocco is, no doubt, an early one, and in the case of the present species I think it probable that it was almost, if not quite, over by the end of June, which would account for specimens obtained then having dark bills. I am confirmed in this opinion by Mr. Dodson, who tells me that he met with flocks of young birds of this species at Ras-el-Ain at the end of June, and concluded that breeding was then quite over. The fact, too, of a young bird, apparently two months old, being found on the 13th May would show that the species breeds early. At the same time, however, I must say that the plumage of many of these dark-billed birds killed in June is quite as black and glossy as that of the yellow-billed birds killed earlier in the year.

Besides the variation in the colour of the bill in the present species, the colour of the legs, and also of the irides, would seem to vary considerably according to the season, that of the former being light brown in spring and dark brown in autumn, while the irides are brown in spring and grey in autumn.

PYRRHOCORAX GRACULUS.

One skin of a male, from Tilula on 24th May.

GARRULUS ŒNOPS Whitaker, Bull. B. O. C. vii. p. xviii.

Adult ♂. Tilula, Great Atlas Mts., Marocco, 24th May, 1897.

Forehead and head plentifully covered with black-tipped feathers, with yellowish-rufous margins, forming a distinct crest, becoming thicker and blacker towards the nape; hind neck, cheeks, and sides of head rich rufescent vinous colour, extending round and below the throat, which is whitish; back vinous grey, contrasting greatly with the rufescent nape; in other respects plumage resembling that of *G. glandarius*, except that the underparts are a trifle darker and more vinous-grey. Bill black; iris purplish grey; legs brown. Total length about 12·50 inches, wing 6·50, culmen 1, tarsus 1·50.

Of this Jay I have four skins, all males, three being from Tilula, obtained on 24th May, and one obtained at Enzel on 30th May. The crest varies a good deal, being much thicker and heavier in two of the specimens than in the other two. The wing-measurements also vary somewhat. This species is apparently closely allied to *G. hyrcanus*, differing merely in being rather more rufous on the hind neck and cheeks, and in being a little smaller.

PICA MAURITANICA.

Twelve skins of ♂, ♀ and young, from Tameshlot, Amsmiz, Frouga, Ecru, and Ras-el-Ain, May and June.

CORVUS TINGITANUS.

A female, from Schaf-el-Akab, 1st March.

CYPSELUS PALLIDUS.

Four, ♂ and ♀, from Marocco city, Mogador, and Ras-el-Ain, in May, June and July.

CYPSELUS AFFINIS.

Two skins, from Mazagan and Marocco city, in April and May. These skins are rather darker than Tunisian specimens, and are no doubt typical *C. affinis* of J. E. Gray.

CAPRIMULGUS RUFICOLLIS.

A female, from Marocco city, on 4th May.

IYNX TORQUILLA.

A few skins from North Marocco in March.

ALCEDO ISPIDA.

A female, from Wed Enger, 1st April.

CORACIAS GARRULUS.

A few skins of ♂ and ♀, from Rabat, Mequinez, and Marocco city, in April and May.

MEROPS APIASTER.

A large series of ♂ and ♀, from Fez, Marocco city, and Ras-el-Ain, between end of March and June.

UPUPA EPOPS.

A few examples from Schaf-el-Akab, end of February and beginning of March, and one skin from Ras-el-Ain, 1st July.

COCCYSTES GLANDARIUS.

A female, from Schaf-el-Akab, 27th February.

STRIX FLAMMEA.

Two skins of ♂ and ♀, from Schaf-el-Akab, in March.

ASIO OTUS.

A female, from Ain Embark, on 23rd March.

SCOPS GIU.

A male, from Fez, on 28th March.

ATHENE GLAUX.

Ten skins of ♂ and ♀, from Schaf-el-Akab, Azimur, Marocco city, and Tameshlot, between March and June. As in Tunisia, specimens obtained in the north are darker than those obtained in the south.

BUTEO DESERTORUM.

A male, from Schaf-el-Akab, 9th March.

ACCIPITER NISUS.

A female, from Schaf-el-Akab, 10th March.

MILVUS ICTINUS.

A female, from Schaf-el-Akab, 8th March.

MILVUS MIGRANS.

Two skins of males, from El Mousourier, 13th April.

ELANUS CÆRULEUS.

A male, from El Fouara, 7th April.

FALCO BARBARUS.

A male, from Ras-el-Ain, 27th June; a fine adult specimen.

FALCO TINNUNCULUS.

Five skins of ♂ and ♀, from Schaf-el-Akab, Fez, Wed Jedida, Mequinez, and Tilula, between March and May.

FALCO CENCHRIS.

Three skins of ♂ and ♀, from Schaf-el-Akab, Rabat, and Wed Enger, February and April.

ARDEA PURPUREA.

A female, from El Fouara, 7th April.

ARDEA BUBULCUS.

A few skins of ♂ and ♀, from Schaf-el-Akab and Marocco city, in March and May.

CICONIA ALBA.

A female, from Mesfioua, 20th May.

QUERQUEDULA CIRCIA.

A male, from Mazagan, 18th April.

DAFILA ACUTA.

A male, from Hawara, 13th March.

NYROCA FERRUGINEA.

Two skins of ♂ and ♀, from Casa Blanca and Azimur, in April.

COLUMBA PALUMBUS.

Two skins of ♂ and ♀, from Tilula and Glaoui, in May.

COLUMBA LIVIA.

A few skins of ♂ and ♀, from Amsmiz and Isseremont, in May. One of these is without any white on the rump, as in *C. schimperi*; it was obtained out of a flock at the same shot as one of the ordinary white-rumped form. From Tunis I have a similar specimen without the white rump, but I do not know whether these dark-rumped birds can be separated from the others.

COLUMBA ŒNAS.

Two males from North Marocco, in March.

TURTUR COMMUNIS.

A few examples from Skera Dukomphil, Mousourier, and Frouga, in April and June.

PTEROCLES ARENARIUS.

A few specimens from Central and South Marocco, in May and June.

PTEROCLES ALCHATA.

A pair from Nzela Swinia, in April.

CACCABIS PETROSA.

A few skins of ♂ and ♀, from Wed Jedida, the Atlas district, and Ras-el-Ain, between April and June.

GALLINULA CHLOROPUS.

Two skins, one of a young bird, from Marocco city, in May.

FULICA ATRA.

Two from Azimur, in April.

ŒDICNEMUS CREPITANS.

One from Schaf-el-Akab, in March.

GLAREOLA PRATINCOLA.

Five skins of ♂ and ♀, from Casa Blanca and Uled Aloo, in April.

CURSORIUS GALLICUS.

Four skins of ♂ and ♀, from Nzela Swinia and Ras-el-Ain, in April and June.

ÆGIALITIS CANTIANA.

Two females, from El Mousourier and Skera Dukomphil, in April.

ÆGIALITIS CURONICA.

Two females, from Wed-el-Fouara and Zarkten, in April and May.

VANELLUS VULGARIS.

Three skins of ♂ and ♀, from Schaf-el-Akab, in March.

STREPSILAS INTERPRES.

Five skins of ♂ and ♀, from Rabat and Skera Dukomphil, in April.

HÆMATOPUS OSTRALEGUS.

One female from Skera Dukomphil in April.

HIMANTOPUS CANDIDUS.

Three skins of ♂ and ♀, from Skera Dukomphil and Casa Blanca, in April.

GALLINAGO CŒLESTIS.

Two males from Schaf-el-Akab in March.

TRINGA MINUTA.

One from Rabat in April.

TRINGA SUBARQUATA.

One male from Azimur in April.

TOTANUS HYPOLEUCUS.

Five skins of ♂ and ♀, from Rabat and Skera Dukomphil, in April.

TOTANUS GLAREOLA.

One male from Meskra Eroomla in April.

LII.—*Bulletin of the British Ornithologists' Club.*

No. LV. (June 30th, 1898).

The fifth-fourth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 22nd of June, 1898. *Chairman*: P. L. Sclater, F.R.S. Twenty-one Members and one visitor were present.

The Chairman referred to the loss which the Club had recently suffered by the deaths of Mr. Osbert Salvin, F.R.S., and Mr. A. H. Everett; and expressions of sympathy with the families of the deceased were unanimously passed.

Mr. Sclater exhibited the skins of two birds obtained by Capt. Wellby at high elevations during his recent adventurous journey across Northern Tibet. These were referred to *Syrrhaptes tibetanus*, shot on June 21st, 1897, in lat. 34° 59', long. 82° 30', at an elevation of 17,130 feet, and a Hoopoe (*Upupa epops*), shot on the 28th of July, 1897, in lat. 35° 20', long. 88° 30', at an altitude of 16,690 feet.

Mr. H. Saunders made some remarks upon a recent visit to Ireland, in company with Mr. R. J. Ussher, and stated that there did not seem to be any danger of the extermination of the Peregrine or the Chough in the south and west. Eagles were becoming scarce in the west, chiefly owing to poison laid out for foxes and Hooded Crows. A considerable number of White Wagtails (*Motacilla alba*) passed along Killala Bay early in May, and an adult, with cotton-grass in its bill, was observed by Messrs. Ussher, Warren, and Saunders on June 10th, near Belmullet, co. Mayo.

The Hon. Walter Rothschild sent for exhibition some very interesting photographs of places and episodes of bird-life in the Galapagos Islands, which had been taken by the naturalists attached to the recent expedition to the Archipelago.

Dr. R. Bowdler Sharpe gave a short account of his recent visit to the Smolen Islands in Northern Norway, and exhibited some interesting specimens of the eggs of *Larus canus*; also the photographs he had taken of the different islands and the nests of the birds found thereon.

Mr. W. P. Pycraft made a communication concerning the avian "mesopterygoid" of W. K. Parker. This, he showed, did not represent a mesopterygoid, but was really a segmentation of the anterior end of the pterygoid, which, running forward along the internal border of the posterior end of the palatine, terminates over the posterior extremity of the vomer, with which it is often in actual contact. This is the permanent condition of these bones in the *Ratitæ*, where, however, the anterior end of the pterygoid does not segment off from the main body of the bone. In the *Carinatæ*, later in life the segmented anterior end fuses with the palatine and thus disappears, a true joint being formed behind this, the pterygo-palatine articulation. Thus, the pterygoid of adult modern *Carinatæ* represents only the posterior portion of that bone, the anterior portion having fused with the palatine. The matter will be dealt with fully in a forthcoming paper.

Mr. C. F. Underwood described four apparently new species of birds from Costa Rica and Guatemala:—

Tinamus salvini, sp. n.

T. similis *T. fuscipenni*, sed multo minor, et secundariis extùs pallidè rufo fasciatim notatis: præpectore et pectore summo olivascenti-griseis, fulvo transfasciatis: abdomine albicanti-fulvo, distinctè nigro transfasciato. Long. tot. 10·5 poll., culm. 1·15, alæ 7·2, caudæ 2·0, tarsi 2·0.

Hab. Carrillo, Costa Rica, Nov. 30, 1897 (*C. F. U.*).

Chlorospingus olivaceiceps, sp. n.

C. similis *C. canigulari*, Lafr., sed pileo olivaceo dorso concolore distinguendus. Long. tot. 5·0 poll., culm. 0·45, alæ 2·6, caudæ 2·05, tarsi 0·75.

Hab. Carrillo, Costa Rica, Nov. 24, 1897 (*C. F. U.*).

Icterus gualanensis, sp. n.

Similis *I. giraudi*, sed capitis nigredine usque ad occiput extensâ. Long. tot. 8·5 poll., culm. 1·0, alæ 4·15, caudæ 4·1, tarsi 1·1.

Hab. Gualan, Guatemala, July 11, 1897 (*C. F. U.*).

PICOLAPTES SATURATIOR, sp. n.

Similis *P. compresso,* sed minor, rostro minore nigricantiore, notæo et gastræo saturatiore brunneis, maculis longitudinalibus conspicuè et latiùs nigro marginatis. Long. tot. 7 poll., culm. 0·95, alæ 3 5, caudæ 3·15, tarsi 0·7.

Hab. Gualan, Guatemala, Aug. 18, 1897 (*C. F. U.*).

Dr. BOWDLER SHARPE exhibited some specimens of birds recently received by the British Museum from Mount Albert Edward, in British New Guinea. One of these appeared to be the interesting Weaver-Finch described by Mr. De Vis as *Oreostruthus fuliginosus* (Ibis, 1897, p. 338; 1898, p. 175), excepting that the tail is described as having "many narrow blackish bars," whereas in the specimen exhibited it is uniform brown.

Two species of *Munia* appeared to be undescribed, and Dr. Sharpe proposed the following names for them :—

MUNIA SCRATCHLEYANA, sp. n.

M. similis *M. canicipiti,* sed dorso rufescenti-brunneo, præpectore cineraceo, pectore et hypochondriis pallidè cervino-rufis distinguenda. Long. tot. 3·8 poll., culm. 0·45, alæ 2·05, caudæ 1·45, tarsi 0·55.

MUNIA NIGRITORQUIS, sp. n.

M. similis *M. spectabili,* sed torque pectorali nigro et hypochondriis nigris distinguenda. Long. tot. 4·3 poll., culm. 0·5, alæ 2·5, caudæ 1·75, tarsi 0 8.

Mr. W. L. SCLATER sent the description of a new species of Flycatcher from Inhambane, which he proposed to call :—

ERYTHROCERCUS FRANCISI, sp. n.

E. similis *E. livingstonii,* capite cinereo, sed caudâ nigro terminatâ distinguendus. Long. tot. 4·2 poll., culm. 0·4, alæ 1·85, caudæ 1·9, tarsi 0·7.

Mr. ROBERT READ exhibited some eggs of the British *Turdidæ,* showing an interesting transition from spotless to deeply spotted specimens, especially in *T. musicus.*

LIII.—*Notices of recent Ornithological Publications.*

[Continued from p. 456.]

81. *Albarda's 'Aves Neerlandicæ.'*

[Aves Neerlandicæ. Naamlijst van Nederlandsche Vogels, door Mr. Herman Albarda. Leeuwarden, 1897. 1 vol. 8vo. 150 pp.]

This is a newly-compiled list of the birds of Holland, prepared something after the fashion of our "B. O. U." List of British Birds. The scientific and Dutch names of each species are followed by a few references to Nozeman's 'Nederlandsche Vogelen,' Temminck's 'Manuel,' Schlegel's 'Vogels van Nederland,' and some other authorities. Then are added the vernacular names and a short account of the time and mode of occurrence of the bird in Holland. The Rules of Nomenclature of the International Congress of Zoology (Paris, 1895) are strictly followed, so that many unusual changes are adopted. This is a useful list for students of the European ornis.

82. *Andersen on the Birds of the Faeroes.*

[Meddelelser om Faeröernes Fugle med særligt Hensyn til Nolsö. Efter skriftlige Oplysninger fra P. F. Petersen, Nolsö. Ved Knud Andersen. Vidensk. Meddel. naturh. Foren. i Kbhvn. 1898, p. 315.]

Mr. Andersen bases his paper principally on observations and specimens transmitted to him by Mr. P. F. Petersen of Nolsö. The chief notes are arranged systematically and relate to 117 species, of which, however, only 11 are permanent residents in the Faeroes. This is an interesting paper to students of British birds, and would be well worthy of translation, or at any rate of abstraction in English.

83. *Barboza du Bocage on the Birds of the Cape Verde Islands.*

[Aves do Archipelago de Cabo Verde. Por J. V. Barboza du Bocage. Jorn. Sci. Mathem., Phys. e Nat. Lisboa, 2ª ser. v. p. 140.]

Prof. Barboza du Bocage commences his article with a useful account of previous publications on the birds of the Cape Verde Islands, and then gives a list of them, mainly based on Mr. Boyd Alexander's papers in this Journal, making the total number of species 48. There appear to be no specimens of Cape Verde birds in the National Museum of Lisbon.

84. *De Graf on the Aquatic Warbler in Holland.*

[*Acrocephalus aquaticus* broedende in Nederland, v. H. W. De Graf. Tijdschr. d. Nederl. Dierk. Verein. (2) p. 303 (1898).]

The writer records the occurrence of three specimens of the Aquatic Warbler (*Acrocephalus aquaticus*) in North Holland in 1887 and 1889, two of which are now exhibited in the mounted collection of the birds of Holland belonging to the Zoological Society, "Natura Artis Magistra," of Amsterdam. It has hitherto been considered as doubtful whether this Warbler had ever been really met with in the Netherlands. Moreover Heer De Graf believes that he saw a young bird of this species in the reed-beds of the "Schwanenwater" in June 1892, and considers that it must have been bred there ; consequently this species may perhaps be added to the list of birds which breed in the Netherlands.

85–91. *Finn's Notes on Birds in India.*

[85. Note on various Species of Grebes, with especial reference to the power of Walking and Digestion possessed by these Birds. By F. Finn, B.A., F.Z.S. J. A. S. B. lxvi. pt. ii. p. 725.

86. Note on the Seasonal Change of Plumage in the Males of the Purple Honeysucker (*Arachnechthra asiatica*) and of an analogous American Bird (*Cœreba cyanea*). J. A. S. B. lxvii. pt. ii. p. 64.

87. Contributions to the Theory of Warning Colours and Mimicry.—No. IV. Experiments with various Birds: Summary and Conclusions. J. A. S. B. lxvii. pt. ii. p. 613.

88. Exhibition of a living Specimen of the Indian Goosander (*Merganser comatus*) and Notes on its Walking Powers. Proc. A. S. B. 1898, p. 103.

89. On certain imperfectly-known Points in the Habits and Economy of Birds.—No. I. On the Position of the Feet of the "Picarian" Birds and Parrots in Flight. Proc. A. S. B. March 1898.

90. Ditto.—No. II. On the use of the Feet for Prehension by certain Passerine Birds, especially Babblers. Proc. A. S. B. May 1898.

91. On a third Invasion of India by Baer's Pochard (*Nyroca baeri*). Proc. A. S. B. 1898, p. 134.]

The gist of Mr. Finn's observations set forth in the first of these papers is that Grebes stand erect and walk more or less freely, though with a blundering gait when hurried. In the second paper the author maintains, in agreement with Jerdon and Capt. Shelley, that the male Purple Honeysucker moults into a plumage resembling that of the female. The third paper contains the result of experiments with insects addicted to mimicry and birds which are more or less insectivorous. Some of the remarks strike us as being extremely trite, especially the warning, "*Remember that the best and often the only way to determine an animal's tastes is to offer it a choice.*" In No. 88 it is stated that the Indian Goosander walks "in the ordinary manner of Ducks." In No. 89 Mr. Finn states that, so far as his observations go, the Parrots, Hornbills, Kingfishers, and Rollers carry their feet stretched out backwards when in flight, while a drawn-up or forward position characterizes some, at least, of the Hoopoes, Woodpeckers, and Barbets. In No. 90 it is remarked that the Babblers resemble the Shrikes in their habit of feeding from the foot, which is not the case with the Warblers or the Thrushes; at the same time too much stress must not be laid upon this, as some Parrots use the foot like a hand, whereas others do not. From the last contribution we learn that Baer's Duck, the Eastern representative of our White-eyed Duck, has again visited India in some numbers.

92. *Finsch on the* Crex sandwichensis *of Schlegel.*

[On the so-called "Sandwich Rail" in the Leyden Museum. By O. Finsch. Notes Leyden Mus. xx. p. 77.]

Schlegel's *Crex sandwichensis*, only known from the specimen in the Leyden Museum, is, according to Dr. Finsch, "most certainly not the same as *Rallus sandwichensis* or *R. obscurus* of Gmelin," as supposed by Hartlaub and Sharpe. It is therefore renamed *Pennula wilsoni*, after Mr. Scott B. Wilson. The exact locality inhabited is unknown.

93. *Finsch on the* Psophiæ *in the Leyden Museum.*

[On *Psophia viridis* and *Ps. obscura.* By Dr. O. Finsch. Notes Leyden Mus. xx. p. 81.]

Dr. Finsch states that the Trumpeters in the Leyden Museum formerly labelled *Psophia viridis* are really *P. obscura* (see above, p. 523), and that this has misled Dr. Sharpe into uniting these two different species. A list is added of all the specimens of the genus at Leyden.

94. *Finsch on* Muscicapula westermanni *Sharpe.*

[On the Identity of *Muscicapula westermanni* Sharpe and *M. melanoleuca* Hodgs. By O. Finsch. Notes Leyden Mus. xx. p. 93.]

Dr. Finsch shows that *Muscicapula westermanni* Sharpe, from Perak (Wray), is a female of *M. maculata* of the B. M. Catalogue, and that the best name to adopt for this widely-spread species is *M. melanoleuca* of Hodgson. The Leyden Museum contains a good set of 14 examples of this bird from various localities—N. India, Java, Timor, Celebes, and Luzon. *Muscicapula melanoleuca* appears to be a mountain-bird, breeding at high altitudes.

95. *Goeldi's Naturalist's Journey to Southern Guiana.*

[Eine Naturforscher Fahrt nach dem Littoral des südlichen Guyana zwischen Oyapock und Amazonenstrom. Von Dr. Emil A. Goeldi. Jahresb. St. Gall. naturw. Gesellsch. 1896–97.]

This is a general narrative of the expedition to Southern Guiana made by Dr. Goeldi and his companions in 1895, of which, as regards the birds observed and collected, Dr. Goeldi has already written an account in 'The Ibis' (1897, p. 149). A photographic portrait is given of Dr. Goeldi's conservator, Max Tanner, whose sad death from fever, contracted at Amapa during this expedition, has already been mentioned.

96. *Hartert on Birds from Flores.*

[On the Birds collected by Mr. Everett in South Flores. Part II. By Ernst Hartert. Novitates Zool. v. p. 42.]

This is the second part (see Ibis, 1897, p. 614) of

Mr. Hartert's account of the collection made by the late Mr. Everett in Flores. Fifty species are enumerated and discussed, among which are two new subspecies—*Limnaëtus limnaëtus floris* and *Hypotænidia brachypus exsul*. *Psitteuteles weberi* of Büttikofer, united to *P. euteles* by Dr. Mivart in his recent Monograph of the Lories, is revived, as "being distinguishable at a glance."

97. *Hartert on Birds from the Marianne Islands.*

[On the Birds of the Marianne Islands. By Ernst Hartert. Novitates Zool. v. p. 51.]

Mr. Hartert describes a collection of birds received at Tring from the islands of Guam and Saipan of the Marianne group, and bases his remarks mainly on M. Oustalet's recent article on the same subject. Forty-one species are dealt with, of which *Rhipidura saipanensis* and *Gygis alba kittlitzi* are described as new. Seven species are added to M. Oustalet's list, and the whole number of birds of the Marianne avifauna is raised to 56.

98. *Hartert on Birds from Nyasaland.*

[List of an Ornithological Collection made by Dr. Percy Rendall on the Upper Shiré River near Fort Johnston and on the Shores of the Southern Parts of Lake Nyassa. By Ernst Hartert. Novitates Zool. v. p. 70.]

The contents of this paper are well explained in its title. Dr. Rendall's collection contains examples of 108 species, most of which have been also recorded by Capt. Shelley in his articles on the birds of Nyasaland. *Lagonosticta senegala rendalli* is a new subspecies. Some useful field-notes by the collector are given, particularly as regards nests and eggs.

99. *Hartert on Birds from the Talaut Islands.*

[List of a Collection of Birds from the Island of Lirung or Salibabu, the largest of the Talaut Group. By Ernst Hartert. Novitates Zool. v. p. 88.]

The author gives a list of a collection made on the island of Liruug or Salibabu, one of the Talaut group, by Mr. John Waterstradt, and transmitted to the Tring Museum. Forty species are enumerated, of which seven are additional to the avifauna of these islands as described by Messrs. Meyer and Wiglesworth (J. f. O. 1894, p. 237, and Abh. Mus. Dresden, 1894–95, no. 9). One new subspecies (*Prioniturus platurus talautensis*) is characterized.

100. *Hartert on Birds from Timor.*

[List of Birds collected in Timor by Mr. Alfred Everett. By Ernst Hartert. Novitates Zool. v. p. 111.]

The late Mr. Everett visited Timor in July 1897, and stayed till September; but he was not able to explore the mountains of the interior, and his collection was formed within a radius of 12 miles from Atapapu, one of the Dutch settlements, where the steamer calls once a month. Atapapu lies at the mouth of a deep gorge in the coast-hills, a little to the west of the middle of the island. The heat here, at the middle of the dry season, "was terrible," and all the party were more or less sick.

Mr. Hartert refers Everett's "magnificent collection," which makes a most valuable addition to the series at Tring, to 81 species, of which *Cettia everetti* and *Acanthopneuste floris* are characterized as new. Two other subspecies (*Trichoglossus hæmatodus fortis*, from Sumba, and *Cacatua parvula occidentalis*, from Lombok and Flores, are designated in the notes. No *Pitta* was met with, although diligently sought after.

101. *Hartert on the Birds of the Sula Islands.*

[List of a Collection of Birds made in the Sula Islands by William Doherty. By Ernst Hartert. Novitates Zool. v. p. 125.]

The collection made by Mr. Doherty, in October and November 1897, on the islands of Sula-Mangoli and Sula-Besi is described in this paper. It contains examples of all the birds which are restricted to the Sula group and of almost all others known to be found there, besides certain additions. The specimens are referred to 55 species, among which two are described as new (*Pisorhina sulaensis* and *Rhinomyias colonus*), besides two subspecies (*Pelargopsis melanorhyncha eutreptorhyncha* and *Hypothymis puella blasii*). *Ptilinopus chrysorrhous pelingensis,* from Peling and Mangai Islands, is also separated as a new subspecies. *Eudynamis facialis* Wallace, not recognized in the B. M. Catalogue (vol. xix.), is revived. Mr. Doherty obtained three examples of the rare Sturnine bird *Charitornis albertinæ,* in Sula-Mangoli.

102. *Harting on Hawks.*

[Hints on the Management of Hawks. Second Edition; to which is added Practical Falconry, Chapters Historical and Descriptive. By J. E. Harting. Pp. i–viii, 1–268. 8vo. London: Horace Cox, 1898.]

So many additions have been made to the original letterpress of this well-known little work, that the so-called second edition is practically new. The management of Hawks and the practice of falconry lie beyond the province of ornithologists in the strictest sense, but, even from a limited point of view, there is much in this work that appeals to the lover of bird-life. The remarks on the moulting of Falcons are excellent; the chapters on the Goshawk, the Sparrowhawk, and the Merlin contain information of great interest, and there is much bird-lore in connexion with what may be called excentricities in hawking. Many of us are aware of the taste of James I. for flying Jer-Falcons at the Kite, and even about this Mr. Harting has something new to say; but few persons know that Ospreys were also kept by that monarch. A chapter is devoted to trained Eagles, and Mr. Harting gives his not very successful experiences in France on Bonelli's Eagle. Many beautiful illustrations by Mr. G. E. Lodge add to the value of the volume, and there is also a photogravure of the picture by Mr. Joseph Wolf of a Greenland and an Iceland Falcon attacking a Kite, which we recollect in the International Exhibition of 1862.

103. *Lucas on the Tongues of Birds.*

[The Tongues of Birds. By Frederick A. Lucas. Rep. U.S. Nat. Mus. 1895, p. 1001 (1897).]

This is an excellent essay on a much-neglected subject, and will, we hope, excite some of our younger students to pay attention to a very important feature in the structure of birds. As Mr. Lucas points out, similar habits and food in widely different forms of birds may result in producing similar tongues. But there is also little doubt that the investigation of the tongue may be very instructive in cases of uncertain affinities, though not absolutely to be depended upon for purposes of classification, unless supported by other characters.

104. *More's Life and Letters.*

[Life and Letters of Alexander Goodman More, F.R.S.E., F.L.S., &c., with Selections from his Zoological and Botanical Writings. Edited by C. B. Moffat, B.A., with a Preface by Frances M. More. Pp. i–xii, 1–642. 8vo. Dublin: Hodges, Figgis, & Co., 1898.]

'The Ibis' for 1895 (p. 410) contained a notice of the career of our lamented colleague, and those who had the privilege of knowing the man will be pleased at the light thrown upon his estimable character by the correspondence contained in this volume. That More was an enthusiast is abundantly shown by his letters, but what cannot so clearly be indicated is the power he possessed of communicating his fervour. Though not an Irishman, his name will always be associated with Ireland, to which he paid his first visit in 1850, when he shot a Marsh-Harrier near Kilmacduagh; while, in the following year, he not only saw Eagles near Kylemore, but found the Hen-Harrier "common on all the hills, and often seen quartering the ground." We believe he was the first to observe the Arctic Tern nesting by a freshwater lough, and it seems that he was the identifier of the Bartram's Sandpiper killed in Nottinghamshire—the first British specimen on record. There is much correspondence with Sir Edward and Professor Newton, and the descriptions of More's varied experiences in Connemara are very pleasant reading. Though the pursuit of the great Grey Seal and the death of the gigantic cuttlefish do not come within our province, an allusion to them may be pardoned. It is true that the volume is somewhat bulky, and we think that some of the correspondence might have been omitted or compressed. In an Appendix all More's scientific contributions are given; among them his principal work, on 'The Distribution of Birds in Great Britain during the Nesting-Season,' and also his two Lists of Irish Birds.

105. *Pražák on a new* Trochalopteron.

[Ueber einen neuen Vogel vom oberen Yang-tse kiang und Tungting See. Von Dr. J. P. Pražák. Monatsb. Deuts. Ver. Schutze Vogelw. xxii. p. 327.]

Trochalopteron hennickei is described as a new species, allied to *T. sukatschewii* of Berezowski and Bianchi and *T. cinereiceps* of Styan, and based on three specimens obtained by a correspondent in the summer of 1896, on the Tung-ting Lake, in the upper valley of the Yang-tse.

106. *Rothschild on the Paradise-birds.*

[Notes on *Paradiseidæ*. By the Hon. Walter Rothschild. Novitates Zool. v. p. 84.]

These notes refer to various points in the arrangement and nomenclature of the Paradiseidæ, which will, no doubt, be embodied in the synopsis of the group being prepared for 'Das Thierreich.' We are very glad to observe that Mr. Rothschild is inclined to restrict the excessive number of genera admitted in the Paradiseidæ by Dr. Sharpe. Genera do not exist in nature, and are merely conveniences for reference; but they become excessively inconvenient when too numerous. We are not, however, able to approve in a similar way of some of Mr. Rothschild's proposed changes of generic and scientific names. Who will ever recognize a Paradise-bird under the name *Falcinellus striatus*, or suspect that it conceals our old friend *Epimachus speciosus*?

107. *Seebohm's 'Monograph of the Thrushes.'*

[A Monograph of the Turdidæ, or Family of Thrushes. By the late Henry Seebohm. Edited and completed (after the Author's death) by R. Bowdler Sharpe, LL.D., F.L.S., &c. Part III. Imperial 4to. London: Henry Sotheran & Co., 1898.]

The third number of this excellent and well-illustrated monograph finishes the series of *Geocichlæ* and begins the typical *Turdi*. The species treated of, and nearly all figured, are:—*Geocichla andromeda, G. marginata, G. nævia, G. wardi, G. schistacea, G. pinicola, G. sibirica, G. davisoni, G. litsitsirupa, G. semiensis, G. terrestris, Turdus marañonicus, T. bewsheri*, and *T. olivaceifuscus*. Of these the rarest and most abnormal is *G. terrestris* of the Bonin Islands, of which only four specimens are known, all in Continental Museums.

108. *Shufeldt on Taxidermy at Leyden.*

[Taxidermical Methods in the Leyden Museum, Holland. By R. W. Shufeldt. Rep. U.S. Nat. Mus. 1895, p. 1031 (1897).]

Dr. Shufeldt sings the praises of the methods used in the Leyden Museum by Mr. H. H. ter Meer and his son in mounting the mammals and birds exhibited in the galleries of that celebrated institution, and gives photographs of some of the specimens. The chief point urged seems to be that the "prepared model of the body should be an exact reproduction of the original, before the skin is drawn over it, so as to obviate the necessity of subsequently introducing additional fillings."

109. *Vorderman on the Birds of Celebes.*

[Celebes-Vogels. Door A. G. Vorderman. Natuurk. Tijds. Nederl. Indië, Deel lviii. p. 1 (1898).]

The author gives a list, with references and remarks, of a collection of 323 specimens of birds, representing 118 species, made by himself and assistants in various parts of Celebes during a recent official visit to Macassar and the residency of Menado. In the latter district ten localities were visited. The species are all previously known as found in Celebes.

LIV.—*Letter—Obituary.*

We have received the following letter, addressed "to the Editors of 'The Ibis'":—

Sirs,—When recently looking over my collection of Chats, I made the following interesting discovery, which seems to have hitherto escaped the notice of ornithologists, viz., that there are two very distinct forms of the Black-eared Chat (*Saxicola aurita* Temm.), one being of the described type, occurring in South-eastern Europe, Asia Minor, and North-eastern Africa, while the other, which is apparently undescribed, occurs in South-western Europe and North-western Africa.

The points of difference between these two forms are, I think, of sufficient importance to justify the specific separation of one from the other, being, in fact, precisely those occurring between the two very closely-allied species *S. melanoleuca* and *S. stapazina* (*vide* Ibis, 1895, p. 93), with the exception, of course, of the black throat-band, more extended in the former than in the latter.

The Western Black-eared Chat differs from the Eastern bird in the following respects:—

(*a*) The black of the lores does not extend over the base of the bill in a narrow frontal band, this point being of a creamy-white colour, the same as the rest of the crown.

(*b*) The scapulars are cream-coloured, and not black.

(*c*) The under surface of the wings, both primaries and secondaries, is of a light colour, sometimes quite white, instead of being black.

The adult male of the Western bird moreover does not seem to assume, as a rule, the silvery-white plumage on the head and back found in adult examples of *S. aurita* in spring, but remains always more or less cream-coloured.

On the other hand, the Western bird is generally whiter on the throat and underparts than the Eastern bird.

In some specimens of the Western form there is very little black on the lores, some examples indeed having none at all, although probably this is exceptional.

The measurements and soft parts are the same in both forms. As in the case of the two species of Black-throated Chat, the meeting-point of the two species of Black-eared Chat is probably, roughly speaking, about the 10th degree of East longitude. From Tunis I have both forms, although the Western is by far the commoner of the two; in fact, out of some 20 specimens in my collection, only one is of the Eastern form. All my specimens from Algeria and Marocco are of the Western form.

I propose to name this Chat SAXICOLA CATERINÆ, sp. nov.

I also have a Crossbill from Tunis, which I consider sufficiently distinct from *Loxia curvirostra* to be separated from it as a subspecies, and I therefore propose to name and describe it as follows:—

LOXIA CURVIROSTRA POLIOGYNA, subsp. nov.

Similar to *L. curvirostra*, but differs from that species in being paler and greyer, this character being more conspicuous in the female, which is almost entirely grey, and not green or greenish, as is the female of the Common Crossbill. This is a perfectly constant character, as shown by a large series of specimens, all exactly alike. Adult male birds, owing to the colour of their plumage, naturally show the difference less than the females; but immature males, as well as young birds of the year in the spotted stage of plumage, show it distinctly. The bill is as in *L. curvirostra*, as are also the measurements generally, and the present bird therefore can scarcely be Von Homeyer's *L. balearica*, whatever that may have been.

The Tunisian Crossbill is to be found in the woods of Aleppo-pine in the central districts of the Regency, where it is resident and fairly abundant. It is, no doubt, a good example of a geographical or climatic race, the plumage of birds generally in Tunisia having a tendency to become pale.

Yours &c.,

J. I. S. WHITAKER.

Obituary.

Osbert Salvin, F.R.S., whose lamented death on the 1st of June was announced in our last number, was the second son of the late Mr. Anthony Salvin, of Hawksfold, near Haslemere, in Sussex, the well-known architect. Born in 1835, Salvin was educated at Westminster and afterwards at Trinity Hall, Cambridge, where he graduated as Senior Optime in the Mathematical Tripos of 1857. Shortly after taking his degree, he proceeded, in company with Mr. W. Huddleston Simpson (now Huddleston), to join the Rev. H. B. (now Canon) Tristram, in the study of the natural history of Tunisia and Eastern Algeria, in which five months were pleasantly passed, as those of our readers who are acquainted with the contents of the first volume of 'The Ibis' (1859) will be well aware (see "Five Months' Birds'-nesting in the Eastern Atlas"). It is hardly necessary to say that Salvin was one of the original Members of the British Ornithologists' Union, and in fact the very first paper published in 'The Ibis' was written by him in conjunction with Sclater. The subject was the "Ornithology of Central America," Salvin having made the first of several visits to Guatemala in 1857; while a second expedition to the same country, in which his companion was Mr. F. D. Godman, was effected in 1861. The result of the friendship and co-operation thus established is seen in the monumental 'Biologia Centrali-Americana,' which has not yet been brought to a conclusion. In 1871 Salvin commenced the editorship of the 3rd series of 'The Ibis,' and, in co-operation with Sclater, concluded the 4th series in 1882. Meanwhile he had been appointed to the Strickland Curatorship in the University of Cambridge and had produced his well-known Catalogue of the Strickland Collection. Salvin was an excellent, indeed we may truly say almost unrivalled "all round" ornithologist; but his strongest subjects were perhaps the Avifauna of the Neotropical region, and his special groups the families Trochilidæ and Procellariidæ, which were assigned to him as the acknowledged authority in the 'Catalogue of Birds in the British Museum' (vols. xvi. and xxv.). Almost his last piece of work was the completion of the late Lord Lilford's 'Coloured Figures of British Birds.' Salvin was a Fellow of the Royal, the Linnean, the Zoological, and the Entomological Societies, and served on their Councils, while his services for many years to the B.O.U., as Editor and afterwards as Treasurer, are known to all of us. With a character of remarkable straightforwardness and common sense he combined an excellent judgment; while he was personally much beloved, so that his loss has been deeply and sincerely felt, as well on account of his qualities as by reason of difficulties experienced in arranging for the continuation of the many duties which he performed up to the moment of his departure from us.

Alfred Hart Everett was born in 1848, on Norfolk Island, where his father held the post of medical officer to the Convict Establishment; but about 1853 his family settled in Jersey, and subsequently near Southampton. From very early years Everett showed a strong taste for natural history, and when, on the occasion of a visit to Norwich, at the age of thirteen, an old gentleman took him on a fossil-hunting expedition it seemed, to use his own words, that a new world had opened to him. His education was chiefly at Norwich Grammar School, under the Rev. (now Canon) Jessopp. Here he distinguished himself, but a severe illness put a stop to his reading for the University. His idea of becoming an explorer now took definite shape, and, having been dissuaded from visiting the Amazon valley, he made the acquaintance of the Rajah of Sarawak (Brooke), who was at the time in England, and he entered the Government service. Of his excellent work as a collector the following list of his contributions will convey some idea:—

A List of the Birds of the Bornean Group of Islands. Journ. Straits Branch R. Asiatic Soc. Singapore, No. 20, 1889, p. 91.

Remarks on the Zoo-geographical Relationships of the Island of Palawan and some adjacent Islands. P. Z. S. 1889, p. 220.

Description of an apparently new Species of the Genus *Siphia* from Borneo. Ibis, 1891, p. 45.

A Nominal List of the Mammals inhabiting the Bornean Group of Islands. P. Z. S. 1893, p. 492.

Notes on Birds Collected in Northern Borneo. Ibis, 1894, p. 540.

A List of the Birds of the Island of Balâbac, with some Notes on, and Additions to the Avifauna of Pâlawan. Ibis, 1895, p. 21.

List of a Collection of Birds made in Lombok by Alfred Everett. By E. Hartert; with Notes on Lombok by A. Everett. Novitates Zool. iii. p. 591 (1896).

There are also numerous papers by Dr. R. Bowdler Sharpe and Mr. Ernst Hartert on the Birds collected by Mr. A. H. Everett, in 'The Ibis' and 'Novitates Zoologicæ.'

Finally he returned to England, broken in health, and, to the great regret of all who knew him, he died on the 18th of June last.

Sysselmand HANS C. MÜLLER died at Thorshavn, Færoes, on Christmas day, 1897, at the age of 79. He was born in 1818 at Thorshavn, where his father held the office of Sysselmand before him. At that period the opportunities for education in the Færoes were of the most elementary nature, yet in spite of these drawbacks, Müller, who was possessed of ability and energy, obtained for himself an education far beyond the generality of his fellow-islanders. In 1839 he succeeded his father as Sysselmand, and in 1852 he was elected a member of the local Parliament, an office he held till 1893. He represented the Færoes in the Danish Rigsdag from 1858–90, and on his retirement the King of Denmark created him Knight of the Danebrog. During the whole of his long life Müller devoted himself to the natural history of his native islands, and especially to their ornithology. His 'Færöernes Fuglefauna,' published in 1862, is still the most trustworthy work on the bird-life of the group. Col. Feilden, who has made several visits to the Færoes, has given most of the results of Müller's observations, in English.

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SEVENTH SERIES.
VOL. IV. No. 13.
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Price 6s.

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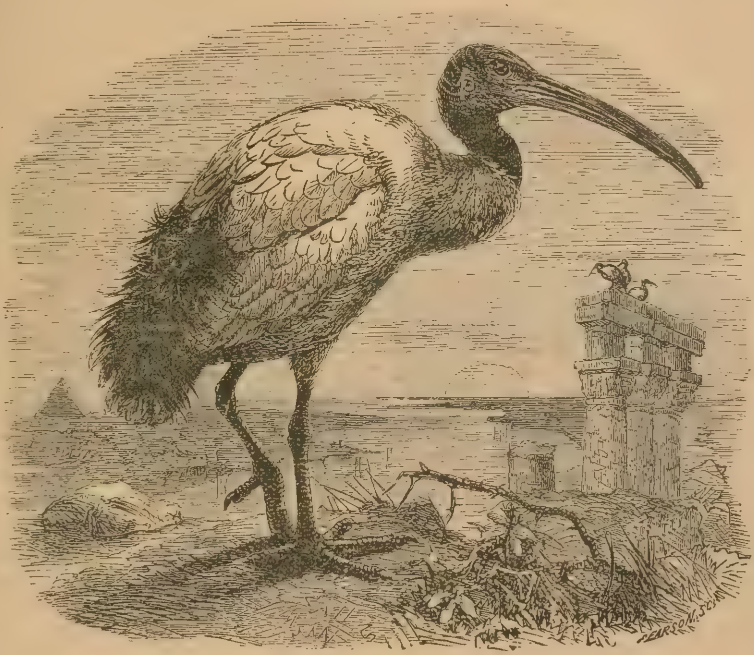

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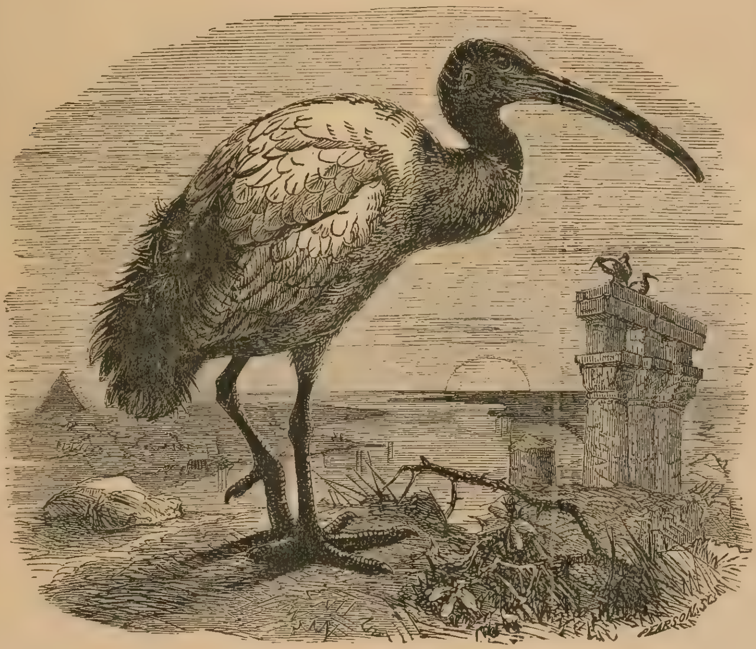

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